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ABSTRACT

This collection of six newsletters from the Educational Resources Information Center (ERIC) Clearinghouse on Educational Media and Technology reports activities and materials published by the clearinghouse during 1970. A departmentalized "current awareness" list of documents recently added to the national ERIC collection is initiated. The spring issue summarizes the "Commission on Instructional Technology Report." (DS)

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THE ERIC AT STANFORD NEWSLETTER

1970

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ERIC at Stanford

The Clearinghouse on Educational Media and Technology

Media, Progress, Balance and The Silent Majority

By Henry C. Alter
National Educational Television

As the new decade opens there is unprecedented awareness of media, mixed with profound uneasiness about them. Education and national affairs will be dominated as never before by communication technology.

Knowledge, data, and ideas are being packaged in revolutionary new ways. Soon students will be carrying their lectures with them on coin-sized discs that slip into playback devices the size of a pack of cigarettes. Cassettes containing an entire drama will be sold like LP records, to play on the home TV set. Dial access to data banks will become routine in schools, and then in the home. Before too long entire populations will be polled by being asked to punch "agree" or "disagree" buttons in response to television or radio queries on current issues.

In short, answers will be cheap and plentiful. The problem will be to ask the right questions. The role of education will shift from packaging answers to refining inquiry. Examination papers may well do an about-face by grading the student on his ability to work backwards to relevant questions, from supplied facts and figures. Rote learning may be replaced by disciplined thought.

Success along these lines could mean the end of the "silent majority"—a concept which regrettably dominates much of the discussion about mass communication just now. It is a concept given currency by the mass media, yet one which they must lay to rest for the nation's sake, and for their own survival. It has no place in the rhetoric of a free society, and its approving and repeated use by politicians should be a warning to us all.

The fallacy of the "silent majority" leads directly to devaluation of individual opinion, sti-

(Continued on page 2)

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From the Educator to the Salesman: Greenboards are a Great Innovation?

By Dr. Robert Parkinson
Director, Learning Services
Evanston Public Schools, Evanston, Illinois

These comments are from an address presented by Dr. Parkinson to the Educational Marketer and Investor's Seminar sponsored by Knowledge Industry Publications, 120 E. 34th St., New York. They are reproduced here by permission of Knowledge Industry Publications.

Education is, or should be, a change process. We should provide opportunities for children to grow and develop. We should provide opportunities for them to gather enough current factual information so that they can develop a concept of a principle from the fact. We can no longer be concerned with teaching facts, because the facts change.

It used to be a nice comfortable fact that what went up, came down; this doesn't apply any more. And no kid from the age of six down is going to accept that, because these kids have always lived in the space age. They talk very fluidly and lucidly about lunar modules, about orbiting, about space stations; they have always lived in the space age. We haven't. Consequently, the little kids don't get excited about watching television; they didn't bother even, to look at Apollo X with the linkup and whatnot, because they saw that years ago in the cartoons. And this is just part of their world.

Now, if this is what the world is all about, if this is the kind of framework in which kids operate, here is where we get hung up in our trying to sell things to the educational market, and I say "we" and "our" problem because in many respects I have to do more selling than you do. Because your salesman on the road and your booths and conventions, and your direct mailing—all of those slickly done ads—are aimed at me, the educator. I hopefully will become convinced, hopefully from your point of view, that your product is worthwhile. But then I must turn around and sell the superintendent, or the board of trustees, and ultimately, we must sell the public. So that the bond issue or the referendum, or the budget, is not turned down at the end of the fiscal year.

Which means that you guys tout your product and then you sit back and wait for me to do the

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Alter Cont.—

fling of dissent, and curbing of discussion. Worse, it puts a premium on non-participation and complacency. Insinuating that silence means acquiescence, even approval, it becomes a politician's self-fulfilling delusion: between elections at least, he can arrogate to himself any convenient "mandate," claiming that he does so at the behest of the unheard-from constituency.

Just how well the device can be made to work was demonstrated with chilling effect by the Vice President of the United States. In a one-two punch as intemperate as it was self-serving, he first attacked dissenters as "effete snobs," and then attacked the mass media for "bias" because they reported dissent! The entire performance relied heavily on the "silent majority" fiction, without which it would have been a clearly improper challenge to constitutional guarantees.

On behalf of the "silent majority," the Vice President was able to set up aloofness and indifference as a new test of patriotism, while arguing that the discussion of alternatives is "querulous" and its exercise protected by nothing more basic than a kind of "diplomatic immunity," which he then proclaimed to be at an end.

In the confusion and disarray that followed, insufficient stress was placed on a single, decisive fact: the charge was false as to its substance. The American public is *not* served by a predominantly "liberal" press or electronic media. Four-fifths of the nation's newspapers, for example, did and do support the administration of which the Vice President is a part. Hundreds of television and radio stations ardently support conservative causes and points of view. The major television networks are all available, on demand. to administration spokesmen free of charge.

To complain, in the face of this overwhelming evidence, of the alleged bias of two newspapers, one magazine, and four or five individual commentators is either knowing obfuscation or gross self-pity, or it is both of these. Moreover, even those charges were largely false. The New York Times did report, in all but one of its editions, a story the Vice President said it had suppressed; the Washington Post Company's outlets do not have identical editorial views, but deliberately differing ones.

The television commentary following the President's Vietnam speech was, with minor exceptions, respectful and restrained, and individual stations carried it entirely at their own options—a fact which the Vice President conveniently failed to take into account.

For all its clearly evident speciousness, the attack was effective. The great power of the mass media benefited their critic as it benefits *his* critics. This is the major lesson of the incident: the media magnify, and they multiply, but they confer the mantle of infallibility on no one. They are the marketplace, not the produce. The dialog is continuous. In the absence of an all-out attack on constitutional freedoms, the dialog will continue. In a free system of mass communication, bias is self-correcting. An overload in one direction produces its own counterforce. Over time, balance is achieved, refined, changed. No one gets the last word.

The Vice President and others impatient or unfamiliar with the nature of modern mass media will eventually discover this central fact about their functioning. They will then stop asking for balance within a single program, which is deadly, and expect balance over time, which is inevitable. And these critics of the media will come to understand that television does not create riots because it reports riots. On the contrary, the chance it gives dissidents to be heard probably prevents far more desperate and violent behavior that might result if people felt frustrated in their drive to "get through" to the public. The fact is that news and news analysis must always deal with ferment, with the frontiers of change, not with the inertia at the center.

If we mean what we say about an open society, a self-renewing society, we must not only keep our mass media free, but must expect them to disturb us: this is part of the educational process which the mass media now carry on for those of pre-school age, those in classes, and those in later life.

Neither the classroom nor the public arena is well served by any "silent majority." No one should want to belong to, or appeal to, such a group. No one should follow the example of the ancient despots who killed the messenger because the news he brought was bad. If our myopia leads us to resent our free media of communication, we are inviting the alternative so amply in evidence in the totalitarian countries: the dreary, monotonous documentaries about happy workers cavorting with a new tractor, of "voices of the people" mouthing pleasantries written for them by government propagandists, and of commentators who read, in deadly earnest, their government-supplied copy. Anyone to whom the notion of a silent majority is attractive can find it in those countries.

The rest of us should not say smugly, "It can't happen here." Instead, we should make sure that it doesn't.

Forecast Systems Analysis and Training Methods for Electronics Maintenance Training, Research Report No. 13, Edgar L. Shriver and others, George Washington Univ., Alexandria, Va. Human Resources Research Office, May 1964, EDRS Price 25c HC $2.55, ED 028 296.

This is an overall description of electronic weapon system maintenance training research which was conducted under Task FORECAST and which was directed primarily toward troubleshooting electronic systems.

Abstracts of Instructional Materials in Vocational and Technical Education (AIM), Winter 1968, Ohio State Univ., Columbus, Center for Vocational and Technical Education, 1968, EDRS Price 75c HC $8.45, ED 028 302.

This quarterly publication announces the availability of instructional materials acquired and processed by the Educational Resources Information Center (ERIC) Clearinghouse on Vocational and Technical Education. It should be of particular interest to teachers, curriculum specialists, supervisors, and administrators involved in curriculum development or the use of instructional materials in the teaching-learning setting.

Report of a Seminar on the NAEB. (University of Wisconsin, July 16-19, 1961). Betty McKenzie and others, National Association of Educational Broadcasters, Washington, D. C., 1961, EDRS Price MF 50c HC $5.80, 114p. ED 026 848.

The last of a series of seminars conducted by the National Association of Educational Broadcasters (NAEB) was planned to afford a penetrating look at the overall position of the Association. The seminar focused on the position of the NAEB in the field of education, as well as in relation to its own constituency, and attempted to evaluate the NAEB's past efforts and future goals.

Inventory Systems Laboratory. Final Report, Eliezer Naddor, Johns Hopkins Univ., Baltimore, Md., January 1968, EDRS Price MF 75c HC $6.90, 136p., ED 026 849.

Four computer programs to aid students in understanding inventory systems, constructing mathematical inventory models, and developing optimal decision rules are presented. The program series allows a user to set input levels, simulates the behavior of major variables in inventory systems, and provides performance measures as output.

The Roles of the Teacher for the Effective Use of Programmed Instruction in a Correctional Setting, Donna M. Seay, Draper Correctional Center, Elmore, Ala. Rehabilitation Research Center, November 12, 1966, EDRS Price MF 25c, HC $1.25, 23p.,

ED 026 850.

Not only must a teacher in a correctional setting be aware that typical inmates have been economically deprived, share social and moral values with the lower class, and are educationally deficient, he must also be aware of his own many roles.

Materials and Activities for Teachers and Children: A Project to Develop and Evaluate Multi-Media Kits for Elementary Schools. Volume II: Appendices, Frederick H. Kresse, Childrens Museum, Boston, Mass., May 1968, Available from The Children's Museum, Jamaicaway, Boston, Mass. 02130 (Limited quantities available upon request), 309p., ED 026 851.

The second volume of the report by the Children's Museum of Boston on the development of MATCH Boxes (Materials and Activities for Teachers and Children) contains materials related to the evaluation of these multi-media kits. The MATCH Boxes, designed for use by a teacher with 30 children for two to three weeks, covered 16 different topics, the majority of which relate to the social sciences.

Materials and Activities for Teachers and Children: A Project to Develop and Evaluate Multi-Media Kits for Elementary Schools, Volume I. Final Report, Frederick H. Kresse, Childrens Museum, Boston, Mass., May 1968, Available from The Children's Museum, Jamaicaway, Boston, Mass. 02130 (Limited quantities available upon request), 85p., ED 026 852.

The Children's Museum in Boston developed MATCH Boxes (Materials and Activities for Teachers and Children) to provide self-contained, multi-media kits for elementary school use. The project sought to determine an optimum balance of activities and various media which would involve the student directly in the learning process and would make use of the vast amount of learning potential which is non-verbal in character. A total of 114 boxes on 16 topics, largely in the social sciences, were assembled.

Factors Affecting the Design of Effective Teaching Machine Programs; January 1, 1961 - January 31, 1964. Final Report, John D. Krumboltz, Stanford Univ., Calif. School of Education, January 31, 1964, EDRS Price MF 50c HC $4.00, 78p., ED 026 853.

A series of studies investigating effects of alternative methods of writing, arranging, and responding in programed instruction are presented and the results are summarized to provide guidelines for use in program preparation. In a comparison of overt and covert response modes no differences were obtained on an immediate post-program criterion test; however, overt responses were found more effective on a delayed retention measure.

The Identification of Criteria for the Effective Use of Films in Teaching History in the Classroom, in a Variety of Teaching Situations, Grades 7-12. Final Report, Robert L. Zangrando, Sponsored by Office of Education (DHEW), Washington, D. C. Bureau of Research, July 1968, EDRS Price MF 50c HC $6.20, 122p., ED 026 854.

This project was designed to examine the selection and use of films in the teaching of history, the nature of the film medium as an instrument for learning, and the manner in which the discipline and the medium can be combined effectively in the classroom.

Instructional Television Facilities: A Planning Guide for Educational Administrators. Final Report, John P. Witherspoon, and William J. Kessler, Brooks Foundation, Santa Barbara, Calif., June 1968, EDRS Price MF 75c HC $9.65, 191p., ED 026 855.

As soon as the educational objectives of a proposed Instructional Television System (ITV) have been determined, professional technical advice should be obtained. In planning a system, there are many choices possible between various television production systems, transmission systems, reception facilities, and video recorders.

Pilot Project on Computer Generated Test Items, H. G. Osburn, and David M. Shoemaker, Sponsored by Office of Education (DHEW), Washington, D. C. Bureau of Research, June 1, 1968, EDRS Price MF 75c HC $8.65, 171p., ED 026 856.

A computer program generating question series for achievement examinations was presented and the relative reliability of computer-generated and instructor-selected items was investigated.

Simulation Games in Learning, Sarane S. Boocock, Ed., and E. O. Schild, Ed., 1968, Available from Sage Publications, Inc., 275 South Beverly Drive, Beverly Hills, Calif. 90212 ($8.50), 279p., ED 026 857.

Simulation games serve many functions, but the important one to educators is that they present the student player with a real-life situation allowing him to use his knowledge and abilities while discovering decision-making skills for himself. To provide a basic reference on simulation gaming, essays on various aspects of games were collected from people responsible for the development of the technique.

An Evaluation of San Diego Area Instructional Television Authority Educational Program Activities; October 2, 1967 to May 17, 1968, William J. Stegeman and others, San Diego Area Instructional Television Authority, Calif., July 1968, EDRS Price MF 75c HC $9.35, 185p., ED 026 858.

An example of evaluation under the requirements of an ESEA Title III "Pace" project, this report encompasses the instructional television development and broadcast activities of the San Diego Area Instructional Television Authority (ITVA).

Some Essays on Computers in Education, Margaret E. Pincus, Ed., Harvard Univ., Cambridge, Mass. Graduate School of Educa-

Documents Processed And/Or Cited By the Clearinghouse

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tion.; New England School Development Council, Cambridge, Mass., 1967, Available from New England School Development Council, 220 Alewife Brook Parkway, Cambridge, Mass. 02138 ($5.00), 118p., ED 026 859.

Students at the Harvard Graduate School of Education prepared papers exploring the scope of computer use in education.

The Uses of Television and Their Educational Implications; Preliminary Findings from a Survey of Adults and Adolescent New York Television Viewers, Herbert J. Gans, Centers for Urban Education, New York, N. Y., June 1968, EDRS Price MF $1.00 HC $10.60, 210p., ED 026 860.

To collect data on how to make television a more effective learning instrument outside of the classroom, a standard probability sample with quotas consisting of 200 adults and 200 adolescents living in New York City was interviewed to study how people use TV, their attitudes toward various types of programing, and their viewing preferences.

International Rules for the Cataloguing of Educational, Scientific and Cultural Films and Filmstrips on 3" x 5" (7.5 CM x 12.5 CM) Cards. Preliminary Edition, United Nations Educational, Scientific, Cultural Organization, Paris (France). Clearinghouse of the Dept. of Mass Communication, 1957, EDRS Price MF 25c, HC $2.95, 57p, ED 026 861.

Full use of the world's educational film resources requires standardized cataloging methods for description, evaluation, and availability entries. The establishment of an international 3" x 5" (7.5 cm.) card filing system by Unesco would facilitate exchange of information between all those who use or produce these films.

An Information and Management System for Individually Prescribed Instruction. Working Paper 44, William W. Cooley and Robert Glaser, Pittsburgh Univ., Pa. Learning Research and Development Center, 1968, EDRS Price MF 25c HC $1.85, 35p., ED 026 862.

Education, CATV Get Together in Canada

An educational channel on the new cable system in Vancouver has been obtained by the British Columbia Division of the Canadian Association for Adult Education, and is now in operation on a two-hour a day basis, reports the division's second vice president, A. R. Kluckner. As soon as possible, Channel 10's broadcast (cablecast?) time will be increased to four and then to eight hours per day.

"Initially," Kluckner said, "emphasis in programing will be on public service and information subjects. This is a natural avenue to follow, as well established groups such as Red Cross, police and fire departments, civic and provincial government departments have materials available for informing the public. It is important that programs which provide content on public issues and concerns be offered as soon as possible. These are more difficult to plan and execute but must be provided if a broad balance is to be achieved.

The cable company itself has provided necessary recording equipment as a part of its public service agreement with the local authorities; the cost to the educators, thus, represents only a miniscule fraction of the costs involved in setting up an ETV broadcasting facility. If your city is contemplating the licensing of a cable company, the time to raise adult educational concerns is NOW. For further information on the Vancouver project, contact Mr. A. R. Kluckner, Vancouver Cablevision, 5594 Cambie Street, Vancouver, British Columbia, Canada.–J.O.

A model of the educational process and a derived procedure series for implementing an individualized instruction system are presented.

New Media and College Teaching, James W. Thornton, Jr. and James W. Brown, American Association for Higher Education, Washington, D.C.; Department of Audiovisual Instruction, Washington, D.C., 1968, EDRS Price 75c, HC Available from Publication-Sales Section, National Education Assoc., 1201 Sixteenth St., N.W., Washington, D.C. 20036 (cloth $8.50, paper $7.00), 189p., ED 026 863.

Five hundred current innovative media projects in 300 colleges and universities are reported here by faculty members responsible for them; these reports are the basis for state-of-the-art evaluations; and both evaluations and reports are arranged in this Higher Education Media Study by fields; instructional television, mediated self-instruction, special multimedia facilities; transparencies, telephone applications, simulation, systems, and media services management.

Autotelic Behavior in Socialiation. Report Number 29, Michael Inbar and Clarine S. Stoll, Johns Hopkins Univ., Baltimore, Md. Center for the Study of Social Organization of Schools, December 1968, EDRS Price MF 25c HC $1.45, 27p., ED 026 864.

A selective review of the literature on the socialization effect of games uncovers a varied and increasing number of hypotheses, but only little and scattered evidence. Direct studies of play and game functions are primarily in uncontrolled clinical reports. Therefore, a pilot study was conducted as a preliminary attempt to establish correlational relationships between types and frequencies of games played and general attitudes in children.

Simulation Games for the Social Studies Classroom. New Dimensions Booklets on the Social Studies and World Affairs, Volume One, Number 1, William A. Nesbitt, Foreign Policy Association, New York, N. Y., October 1968, Available from Foreign Policy Association, 345 East 46th Street, New York, N. Y. 10017 ($1.00), 56p., ED 026 865.

Simulation games, antedated by war games such as CHATURANGA and chess, are still in an early stage of their design, development, and use for the classroom. Evidence of their learning advantages is little and uncertain; but their users, students and teachers, are enthusiastic; and they may become an integral part of the K-12 curriculum.

The Student-Teacher-Computer Team: Focus on the Computer, Ontario Inst. for Studies in Education, Toronto, 1967, Available from The Ontario Institute for Studies in Education, 102 Bloor Street West, Toronto 5, Ontario, 35p., ED 026 866.

Descriptions of essential computer elements, logical and programing techniques, and computer applications are provided in an introductory handbook for use by educators and students.

A Prototype System for a Computer-Based Statewide Film Library Network: A Model for Operation. Final Report, Charles M. Bidwell and Dominick Auricchio, Syracuse Univ., N. Y. Center for Instructional Communications, September 1968, EDRS Price MF 25c HC $2.00, 38p., ED 026 867.

The project set out to establish an operational film scheduling network to improve service to New York State teachers using 16mm educational films. The Network is designed to serve local libraries located in Boards of Cooperative Educational Services (BOCES), regional libraries, and a statewide Syracuse University Film Rental Library (SUFRL).

A Prototype System for a Computer-Based Statewide Film Library Network: A Model for Operation. Statewide Film Library Network: System-1 Specifications - Files, Todd Sullivan, Syracuse Univ., N. Y. Center for Instructional Communications, June 30, 1968, EDRS Price MF 50c HC $3.00, 58p., ED 026 868.

Using an IBM System/360 Model 50 computer, the New York Statewide Film Library Network schedules film use, reports on materials handling and statistics, and provides for interlibrary loan of films.

A Prototype System for a Computer-Based Statewide Film Library Network: A Model for Operation. Number 3, Statewide Film Library Network: System Write-Up, Dominick Auricchio, Syracuse Univ., N. Y. Center for Instructional Communications, October 1968, EDRS Price MF 25c HC $2.05, 39p., ED 026 869.

An overview of materials scheduling, this writeup outlines system components, standardization, costs, limitations, and expansion capabilities of the New York Statewide Film Library Network.

Parkinson, Cont.—

selling job. Now the results of the increase in the market indicate that I'm not a very good salesman. But neither are you. Because there have been no substantial changes or increases, or modifications, in the educational scene over the past 50 years. You can point to greenboards. We can point to greenboards with aluminum moulding as a great educational innovation, because we got away from the blackboard with the mahogany moulding, and the furniture in classrooms now is plastic and aluminum instead of wood.

. . . The first thing that's done, as I read the business, when you want to sell a product, you create a need for the product. You convince people that they must have this thing that they didn't even know about yesterday afternoon. So that they will spend their money on it, and if they don't have the money immediately available, they'll go out and borrow money—the automobile industry has grown very large and rich on this. People hock their souls to get something that they're convinced they need.

We haven't convinced anybody that they need a transparency or a slide, or a film, or programmed instruction, or computer-assisted instruction. Or anything. We go in with our slick brochures and our glib lines, and we try to sell the thing before the market is ready to accept the thing.

Now my feeling about the need for a shift in the advertising attack is that you'd reach a greater audience if you could forget about the professional journals, and write to and for—advertising—*The Ladies Home Journal*, because a lot more people read *The Ladies Home Journal* than any of the professional journals.

Now, if you can get to these people and you convince the public of the need to recognize that education must be different, then when the ladies, who read *The Ladies Home Journal*, for example, go to the PTA meetings, they'll look around the rooms and say, "Don't you have a tape recorder here, or a motion picture projector, or slide projector?" This doesn't happen now. What happens now is that if a board of education suggests putting some hardware in a classroom and, of course, the attendant software, people get all excited about it, because they think it's going to cost them a great deal of money.

Nobody has really taken the time to set up a little problem with the general public, and do something like this: Ask them to draw a picture of the classroom. And if I asked you this, you'd all draw a little rectangle and you'd put in desks and chairs, and doors and windows and blackboards, and say—"Here's the classroom." Because the assumption is, this is what we need. Then if I said, "Well, suppose we put in an overhead projector and a tape recorder and a slide projector and a record player, and a screen, of course—what do you think about that? Do that with every classroom in the building." And, you know, people get really excited because this is going to cost a lot of money.

But in actual fact, the thing that they didn't question at all is that chalkboard that somebody glued to the wall. And it costs more dollars to put that in the classroom than those pieces of equipment combined that I mentioned a few moments ago. It costs more money to glue the chalkboards on the wall than it does to buy all that other stuff and put it in every classroom.

The general feeling that I have is, unless we concern ourselves with these attitudinal changes, we're going to continue to fool around and waste your time, and waste my time, and waste the Board of Education's time going over the same stuff day after day. Because when it comes right down to the wire and you have to do a tradeoff and decide how you're going to spend the relatively limited number of dollars that you have in your budget, if it comes to deciding whether we're going to buy books or some of the other things that have been talked about today, the books get it every time.

. . . It's amazing what we can learn from kids. I see you selling stuff and not very effectively, and it's hurting, and it's hurting the teachers in the district, and worst of all, it's hurting the eleven thousand kids that are in this one school district . . . . But there are millions of kids all over this country that are being hurt by the very same lack of imagination, lack of guts, and lack of initiative that's being displayed by industry and by educators.

Most of the time in the classrooms is spent waiting for something to happen, waiting for all the kids to finish their assignments before they go on to the next thing, waiting for the lunch bell, waiting for the recess bell, waiting for spelling to start after arithmetic ended—wait, wait, wait, wait, wait. And then when things do happen in the classroom, they're nowhere near as exciting and informative as what these kids have seen on television or have heard on the radio.

And let me close with one little figure, or two figures. When the average kid comes to us, when he enters kindergarten, he has already logged about five thousand hours in front of the television set. Now that's more time than he's going to spend in classrooms through the sixth grade, and we know that the kids don't stop watching television when they start going to school, so by the time he finishes high school, he would have logged somewhere around eleven thousand hours in classrooms and fifteen thousand hours in front of a television set.

There's no question of the fact that something is wrong with education today, because it's geared to the nineteenth century, not the twentieth century, and how in God's good earth are we going to prepare kids for the twenty-first century using the nineteenth-century techniques? Please read George Leonard's *Education and Ecstasy* and Gordon Taylor's *Biological Time Bomb*. Both of them will knock you right off your chairs. Thank you.

A Prototype System for a Computer-Based Statewide Film Library Network: A Model for Operation. Statewide Film Library Network: User's Manual, Charles M. Bidwell and Muriel L. Day, Syracuse Univ., N. Y. Center for Instructional Communications, September 1968, EDRS Price 50c HC $3.05, 59p., ED 026 870.

The Statewide Film Library Network developed this procedural appendix for use by staff members of participating libraries so that they could organize their procedures along lines compatible with the system.

The Development of the Bell System First Aid and Personal Safety Course; An Exercise in the Application of Empirical Methods to Instructional Systems Design. Final Report, David G. Markle, American Inst. for Research in Behavioral Sciences, Palo Alto, Calif., April 1967, EDRS Price MF 25c HC $2.05, 39p., ED 026 871.

The project objective was to develop a basic first aid course which would teach at least as much in 7½ hours as a standard ten-hour Red Cross course. Timeworth estimations and the elimination of common knowledge material contributed to the efficiency of the instructional product.

Predicting Performance in a Computer Programming Course, Roger Bauer and others, Paper presented at American Educational Research Association Annual Meeting (Chicago, Ill., February 8-10, 1968), 1968, EDRS Price MF 25c HC 55c, 9p., ED 026 872.

Since the need for good programers exists and will increase, their identification before training is desirable. Until now only single tests of potential ability have been evaluated. In this study several tests used in various combinations were evaluated as test batteries.

Program in Computer-Assisted Instruction. Final Report, Richard C. Atkinson, and Patrick Suppes, Stanford Univ., Calif.,

August 1968, EDRS Price MF 50c HC $4.85, 95p., ED 026 873.

Applications of basic elements in a theory of individualized instruction to computer-assisted programs in mathematics, reading, and spelling are described and recent results obtained in an existing elementary school facility are reported.

The Failure of Educational Television, Gabriel D. Ofiesh, Available in *Educational:Instructional Broadcasting*, 1968, 1, 3, June/July, 15-18, 4p, ED 026 874.

Lacking a format appropriate for the medium and lacking a breakthrough in learning theory commensurate with its technological advances, educational television is failing to perform effectively in our society's educational system, according to the author.

Recalling the Lessons of History, H. J. Skornia, Available in *Educational/Instructional Broadcasting*, 1968, 1, 5, November/December, 29-31, 3p, ED 026 875.

In challenging the contention that educational television is a failure in our society and that it will remain one until it learns some lessons from commercial television, the author explains why commercial television's approach is not viable for ETV.

New Products, Barbara Dycus, Ed., Available in *Educational Resources and Techniques*, 1968, 8, 4, December 22, 24, 12-18, 9p, ED 026 876.

A variety of new instructional materials are discussed, ranging from guides for the media specialist to a fully automatic, curriculum-programed, classroom planetarium.

A Trip to the Possible, Lewis A. Rhodes, Available in *Educational Perspectives*, 1968, 7, 3, October, 11-15, 5p. ED 026 877.

American Samoa provides our country's educators with the opportunity of observing an educational system that effectively employs many of the principles of comprehensive reassessment and change that are only being talked about in the United States.

Educational Broadcasting in Japan, Ronald S. Anderson, Available in *Educational Perspectives*, 1968, 7, 3, October 31, 23-7, 6p, ED 026 878.

The ETV Network of the Japan Broadcasting Company (NHK) is one of the world's best. In describing the Japanese system, this article focuses on NHK's program planning and content and on its correspondence education and adult education projects.

TV in Teacher-Training: It Works at University of Hawaii, Geoffrey Kucera, Available in *Educational Perspectives*, 1968, 7, 3, October, 28-31, 4p, ED 026 879.

The author, who is critical of the general misuse of instructional television today, uses the closed-circuit system at the Universtiy of Hawaii's College of Education as an example of how the medium may be intelligently and imaginatively applied to the instructional process.

The Hawaii Educational Television Network: A Status Report, Robert M. Reed, Available in *Educational Perspectives*, 1968, 7, 3, October, 32-6, 5p, ED 026 880.

The current status of the Hawaii Educational Television Network is described in terms of the staff, the budget, the broadcast and reception equipment, and the programing, with consideration also given to some of the more unique aspects of the system and to its utilization.

A Little Credit, Finally, Where Credit Is Due

Issuing this ERIC at Stanford *Newsletter* has been aided and abetted by Jaclyn Caselli, Carolyn Collins, Don Coombs, Dick Farr, Joann George, Henry Ingle, Violet Lofgren, Gabriel Oni-Okpaku, William Paisley, Suzanne Pingree, Leonard C. Schwarz and Michele Timbie, all of the clearinghouse staff,

And by Grace Bartholomew, Marie Price, Mary Brown, Norman Sebert and others at the Stanford Photo Reproduction Service,

And by Contributing Editor John Ohliger of Ohio State University.

Charly; Metamorphosis by Media, Robert Lambert and Frank McLaughlin, Available in *Media and Methods*, 1969, 5, 6, February, 29-31, 3p, ED 026 881.

The story, "Flowers for Algernon," is discussed in terms of its evolution from short story to television play to novel to the movie, "Charly." Emphasized is how each medium approaches the story differently, yet retains a theme to which high school students are willing to respond.

Films with Few Words: A Multi-Sensory Approach to Writing, Reading, and Discussion, David A. Sohn, Available in *Media and Methods*, 1969, 5, 6, February, 45-50, 6p, ED 026 882.

Concerned with the need to offer high school students organized practice in observing visual stimuli and writing about what they see, the author offers an annotated list of short films with little dialogue and narration that can conveniently be used in the classroom for teaching observation through the moving image.

The Use of Film in Social Studies, Mark Phillips, Available in *Media and Methods*, 1969, 5, 6, February, 51-2, 2p, ED 026 883.

An attempt is made to provide a new framework for examining the types of films useful to the teacher of social studies–a framework which, among other things, acknowledges that films may be boring, that propaganda is inherent in most documentaries, and that fiction films may be of great service to the history teacher.

Focus on Young Filmmakers, Richard Mechling, Available in *Media and Methods*, 1969, 5, 6, February, 53-5, 3p, ED 026 884.

An English teacher's account of his experiences producing his school's first student film is combined with a description of the Young Film Makers' Exchange, an organization concerned with the distribution of films made by young people.

West German Television, Henry C. Alter, Available in *Educational Television*, 1969, 1, 4, February, 13-17, 5p, ED 026 885.

The state of commercial, educational, and instructional television in West Germany is described with emphasis on the facts that advertiser support has not restricted quality and that public support has not meant government control.

Media Guide to Africa, Barry K. Beyer, Available in *Media and Methods*, 1969, 5, 7, March, 36-40, 5p, ED 026 886.

A variety of instructional materials for use in teaching about Africa are discussed, ranging from films and slides to maps and replications of African art.

Role Playing Reality, Barbara Bock, Available in *Media and Methods*, 1969, 5, 7, March, 4-8, 5p, ED 026 887.

The theory and application of educational games are discussed, with the point being made that little is known for certain about their effectiveness. The game of "Manchester," dealing with the Industrial Revolution in England, is described in some detail, and 25 other games are noted.

The Role of Television in the Life of the Aged Person, Theo F. Schalinske, thesis at Ohio State University, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order document no. 68-12,873, Microfilm $3.00, HC $5.60).

The relationship between aged persons' general activity patterns and their use of television was investigated. Findings support the conclusion that television serves a unique and important function for the aged person and that he, as well as younger viewers, should be considered in program design.

A Comparison of the Audio-Lingual Habit Theory and the Cognitive Code-Learning Theory to the Teaching of Introductory College Spanish, Kenneth D. Chastain, thesis at Purdue University, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order document no. 68-12,53, Microfilm $3.00, HC $6.20).

The methods used in the cognitive classes (deductive presentation of new material, analysis, explaining grammatical concepts, and using all the senses to assimilate material) were superior to those used in the audio-lingual classes (inductive presentation of new material, pattern drills, natural order of developing language skills).

Training for Problem-Solving Skills Utilizing a Computer-Assisted Instructional Method, Louis W. Stojkiewicz, thesis at University of California, Berkeley, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106

CIJE Covers More Information

Current Index to Journals in Education, the monthly index which complements *Research in Education*, now provides informative annotations for most of the articles listed.

Research in Education always has included abstracts of the documents listed, but *CIJE* has just listed titles of the articles. Now, unless the title is full and descriptive, a one or two sentence annotation also will be presented with each *CIJE* entry.

CIJE now covers more than 500 journals, making it the most comprehensive index of educational articles. Each ERIC clearinghouse prepares citations for the articles relevant to its own area, and CCM Information Corporation (of 909 Third Ave., New York, N.Y. 10022) publishes *CIJE*.

(Order document no. 68-13,963. Microfilm $6.00, HC $21.15).

In developing problem-solving skills and attitudes, three computer-assisted groups were significantly more positive in attitude, persistence and self-evaluation than the non-computer controls.

An Investigation of Selected Procedures for Measuring and Predicting Rate of Learning in Classrooms Operating Under a Program of Individualized Instruction, Margaret L. Wang, thesis at University of Pittsburgh, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order document no. 68-14,866. Microfilm $3.00, HC $4.40).

The results of this study involving 609 elementary school students indicate that neither rate of learning in Individually Prescribed Instruction classrooms not the nature of the relationship between rate and other student characteristics can be clearly or satisfactorily measured.

Language Learning: An Application of Psychological Findings to Classroom Activities Involving Media, Mark W. Seng, thesis at University of Wisconsin, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order document no. 68-7131, Microfilm $3.00, HC $9.25).

Suggestions for ways of using the media and applying psychological principles to improve language teaching are presented in eight model episodes, each based on uses of overhead and slide projectors and the Teletrainer.

Relationships of Certain Characteristics of African Learners to Achievement in Programmed Instruction, George H. Cannon, thesis at Washington State University, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order document no. 68-10,949, Microfilm $3.00, HC $5.60).

This study of Tanzanian secondary school students found that programmed instructional techniques were no more effective than conventional instructional methods. A possible "reading set" was suggested.

Three Types of Programed Learning and the Conventional Teaching of the Nuclear Chemistry Portion of the High School Chemistry Course, Vincent S. Darnowski, thesis at New York University, 1968, Available from University Microfilms, Inc., 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order document no. 68-11,785, Microfilm $4.90, HC $17.35).

The three types of programed materials used were linear short-step, linear long-step, and branched programs. Groups using programs gained significantly more than the control group but the control group had a significantly greater retention of facts and principles.

Facilitation of Language and Literacy Development through Intensive Auditory Perceptual Training, Patricia C. Lindamood, Paper given at the Third Annual TESOL Convention, Chicago, Illinois, March 5-8, 1969, March 1969, EDRS Price MF 25c, HC 50c, 8p, ED 028 430.

The Auditory Discrimination in Depth (A.D.D.) Program suggests that there is a direct relationship between auditory discrimination or auditory perceptual ability and the development of competency in language and literacy skills.

Conditioned Emotional Response: Performance Decrement in Humans as a Function of Task Complexity. Final Report, David A. Sachs and Jack G. May, Jr., Florida State Univ., Tallahassee, March 1969, EDRS Price MF 50c, HC $5.30, 104p, ED 028 492.

This study was designed to investigate the effects of increasing levels of task complexity on the conditioned emotional response (CER) with human subjects (Ss). Three hypotheses were proposed: (1) the CER would increase as task complexity increased, (2) there would be sex differences between Ss with respect to the interaction between the CER and task complexity, and (3) the CER procedures would produce an increase in variability. Proceedings through three levels of task complexity (8-, 16-, and 32-stimulus tasks), a stable baseline of performance for each S was attained. Ss then received CER training which utilized a 2100 cycles per second tone as the conditioned stimulus and paired it with a "painful" level of shock. Each S was then administered a seven-question questionnaire and the Self Analysis Questionnaire. The dependent variables were rate of responding, stimulus presentation time, and response latency. Statistical analyses of group data did not support any of the three hypotheses.

The Learning Research and Development Center at the University of Pittsburgh, John L. Yeager and Robert Glaser, Pittsburgh Univ., Pa. Learning Research and Development Center, June 1968, EDRS Price MF 25c, HC $1.75, 3p, ED 028 493.

The Learning Research and Development Center, an institute composed of faculty from the University of Pittsburgh, has as its general purpose the scientific study of the problems of learning and instruction. The four major programs described are (1) Basic Learning Studies, (2) Computer-Assisted Instruction Studies, (3) Field Research, and (4) Experimental School Development.

The Stanford School Scheduling System, Stanford Univ., Calif. Dept. of Industrial Engineering.; Stanford Univ., Calif. School of Education, 1968, EDRS Price MF 25c, HC $1.50, 28p, ED 028 501.

This booklet gives a general overview of the computerized Stanford School Scheduling System (SSSS) which is designed to make scheduling less difficult for individualized programs in secondary education.

Suggestions and Guidelines for Development of Television Facilities in Schools for the Deaf, E. Jack Goforth, Southern Regional Media Center for the Deaf, Knoxville, Tenn., January 1968, EDRS Price MF 25c, HC $2.70, 52p, ED 028 565.

The various combinations of television equipment suitable for use in deaf education are described in terms of the systems used.

Recent Developments and the Impact of the Newer Media, Francis M. Dwyer, Paper presented at Annual Elementary Principals Workshop, (Fifth, University Park, Pa., July 5-15, 1966), July 1967, EDRS Price MF 25c, HC 70c, 12p, ED 028 606.

Technical features of Penn State's Instructional Media Center are described.

Lighting Systems for Educational Television, Hub Electric Co., Inc., Chicago, Ill., June 1967, EDRS Price MF 25c, HC 75c, 13p, ED 028 622.

Contains specifications, typical layouts, and equipment schedules for lighting television studios.

The Analysis of Essays by Computer. Final Report, Ellis B. Page and Dieter H. Paulus, Connecticut Univ., Storrs, April 1968, EDRS Price MF $1.25, HC $14.10, 280p, ED 028 633.

This study aimed at expanding a new field of educational measurement, by investigating the feasibility of using computer programs for the automatic analysis and evaluation of student writing.

A Synthesis of Teaching Methods, C. Morton Shipley and others, 1964, Available from McGraw-Hill Company of Canada Ltd., 253 Spadina Rd., Dupont District, Toronto 4, Ontario, Canada, 270p, ED 028 634.

An attempt is made in this guide to synthesize the best attributes of the traditional methods of teaching (where subject orientation is primary) and the more progressive methods (where the child as a personality is the central focus).

Trends in Programmed Instruction; Papers from the First Annual Convention of the National Society for Programmed Instruction, Gabriel D. Ofiesh, Ed. and Wesley C. Meierhenry, Ed., Department of Audiovisual Instruction, Washington, D.C.; National

Society for Programmed Instruction, San Antonio, Tex., 1964, EDRS Price MF $1.25, HC Not Available from EDRS, 295p, ED 028 635.

This compendium of ninety papers given at the first Programed Instruction Institute of the National Society for Programmed Instruction (NSPI) attempts to define what programed instruction is, to show what it is accomplishing right now in many fields of endeavor, and to develop a plan for its future use.

Programmed Learning and Computer-Based Instruction, Proceedings of the Conference on Application of Digital Computers to Automated Instruction (Washington, D.C., October 10-12, 1961), John E. Coulson, Ed., System Development Corp., Santa Monica, Calif., 1962, Available from John Wiley and Sons, Inc., 605 Third Ave., New York, N.Y. 10016 ($8.95), 291p, ED 028 636.

A symposium of scientists and educators interested in coordianting the often parallel but separate research and development efforts in programed learning and digital-computer utilization met to define more exactly the potentialities of the computer as an instructional aid. Their papers form the basis of this book.

Multimedia Instructional Programs in Mathematics–Demonstration and Experimentation. The Assimilation of New Media in the Instructional Program of a Rural School. Final Report, Donald M. Miller and others, Wisconsin Heights School District, Wisconsin; Wisconsin State University, Whitewater. School of Education.; Wisconsin University, Madison. Instructional Research Lab, June 1966, EDRS Price MF $1.50, HC $19.45, 387p, ED 028 637.

The assimilation into an existing instructional program of both the new knowledge on learning processes and recent technological advances was attempted in this project through the integration of programed mathematics at the ninth grade level with the multimedia approach to instruction.

Teaching Machines and Programed Learning. II, Data and Directions, Robert Glaser, Ed., National Education Association, Washington, D.C., 1965, EDRS Price MF $3.25, HC Not Available from EDRS, but from Department of Audiovisual Instruction, NEA, 1201 Sixteenth Street, N.W., Washington, D.C. 20036 ($11.50), 839p, ED 028 638.

This collection of 17 papers relating behavioral science theory to the process of experimental education grew out of a 1963 National Education Association symposium on research in programed instruction.

Oak Park and River Forest High School Random Access Information Center; A PACE Program. Report II, Oak Park and River Forest High School, Ill., September 1968, EDRS Price MF 25c, HC 50c, 8p, ED 028 639.

The specifications, planning, and initial development phases of the Random Access Center at the Oak Park and River Forest High School in Oak Park, Illinois, are described with particular attention to the ways that the five functional specifications and the five-part program rationale were implemented.

Survey of the Instructional Use of the Computer in Connecticut's Public and Private High Schools, Connecticut State Dept. of Education, Hartford. Bureau of Elementary and Secondary Education, December 1968, EDRS Price MF 25c, HC 45c, 7p, ED 028 640.

The results of a survey of all public and private secondary schools in Connecticut during May of 1967 indicate that more than 10% are making some instructional use of computers.

E.B.U. International Conference on Educational Radio and Television (3rd, Paris, March 8-22, 1967), Office de Radiodiffusion-Television Francaise, Paris (France), 1967, EDRS Price MF $2.75, HC $33.00, 658p, ED 028 641.

This is a report on a conference dealing with the problems and activities of educational radio and television broadcasting on five continents, especially in the developing nations.

A Study of the Effects of Microteaching Experiences upon Practice Teaching Classroom Behavior. A Thesis, Philip Carl Limbacher, Thesis submitted to the Graduate College of the University of Illinois, Urbana, 1968, Available from University Microfilms, A Xerox Company, 300 N. Zeeb Rd., Ann Arbor, Michigan 48103 (Order No. 69-10774, Microfilm $3.00, Xerography ($7.20), 152p, ED 028 642.

The findings are considered to demonstrate the effectiveness of microteaching experiences in sensitizing teachers to a range of pupil behavioral cues, verbal and non-verbal, and the essential feedback on interest and understanding of lesson materials they represent.

Commercial Broadcasting—Lack of a Sense of Aim?

The best seller *Prime Time* by Alexander Kendrick has been characterized by its reviewers as exclusively a biography of the great Edward R. Murrow. The book is much more than that. It also very carefully traces the decline in quality of American commercial broadcasting. Kendrick cites case after case to prove that decline. He notes: "American television is now in its third decade as a mass broadcasting instrument. What is missing from its programming today is the vital ingredient of yesterday, its promise. Despite its relative youth, the medium has aged prematurely, and one of the symptoms of its senescence is lack of a sense of aim." This is one of the most trenchant books on the American broadcasting industry to appear in a long time. It is available from your bookstore or from Little, Brown and Company.–J.O.

Mission: Possible; The Story of Project Challenge, School District 189, East St. Louis, Ill., May 1, 1967, EDRS Price MF 25c, HC 85c, 15p, ED 028 643.

Project Challenge, a federally funded project in East St. Louis, Illinois, includes only those public and private schools with the highest concentration of disadvantaged children. The goals–academic improvement with better motivation and attendance–are pursued through the use of 16mm educational films, along with other audiovisual materials.

Interim User's Guide to PLANIT: The Author-Language of the Instructor's Computer Utility. Technical Memorandum, C. H. Frye and others, System Development Corp., Santa Monica, Calif., October 16, 1968, EDRS Price MF 50c, HC $4.80, 94p, ED 028 644.

The user (lesson designer or student) communicates with the system via a keyboard. Interacting with PLANIT, he can build and edit lessons, present lessons, and perform computations.

A Computer Study for the Allocation of Channels and the Placement of Transmitters for 2500 MHz Fixed-Station Service in a Metropolitan Area Containing Many Eligible Applicants for Licensing, Warren A. Boecklen and others, Cooperating Schools A-V Corp. of St. Louis City, Mo., June 1967, EDRS Price MF 75c, HC $6.50, 128p, ED 028 645.

The body of the report describes a computer program designed to generate the optimal positions for transmitting and receiving units in regions of high density transmission.

"Medicine Today"; A Small Scale Trial of Subjective Responses of Doctors Viewing Television in Groups, R. L. Meyrick, Association for the Study of Medical Education (England). Television Section, EDRS Price MF 25c, HC $1.00, 18p, ED 028 646.

The intent of this admittedly small scale and unsophisticated trial was to test the response of General Practitioners to being given a form to fill out following a television broadcast, to test the value of the semantic differential method for testing subjective responses to the programs, and to see if some means of testing by multiple-choice questions could be used to assess knowledge gain immediately following the broadcast.

The Name of the Game–Simulation. Research Brief, Number 4, Harry I. Wigderson, ADAPT, A PACE Supplementary Educational Center, Visalia, Calif., June 7, 1968, EDRS Price MF 25c, HC $1.00, 18p, ED 028 647.

Advantages claimed for simulation include added motivation, improvement of problem-solving ability, emphasis on communication, and an interdisciplinary approach rarely achieved otherwise. Objections to the use of these games include fear that

they breed conformism, emphasize winning over learning, and threaten discipline. An appendix lists 85 commercially produced games with the academic use of the game and the grade level to which it applies and the manufacturer from whom it can be obtained.

Bibliography of Materials Published about the Edison Responsive Environment Learning System; The "Talking Typewriter," Responsive Environment Corp., New York, N.Y., 1968, EDRS Price MF 25c, HC 50c, 8p, ED 028 648.

Computer Assisted Instruction. Education Automation Monograph Series [Number One], Lawrence M. Stolurow, 1968, Available from American Data Processing, Inc., 19802 Mack Ave., Grosse Pointe, Mich. 48236 ($24.00, subscription to the series, a set of four monographs), 94p, ED 028 649.

The development of CAI models, the examination of student entry behaviors, and the cost of CAI programs are discussed. References and an appendix on the Harvard University CAI Laboratory are included.

Index to Computer Assisted Instruction, Helen A. Lekan, Ed., Wisconsin Univ., Milwaukee. Instructional Media Lab., February 1969, Available from Instructional Media Lab., Univ. of Wis., Milwaukee, Wis. 53201 ($7.50), 518p, ED 028 650.

This index contains information on 456 computer-assisted instruction (CAI) programs and projects developed by 51 organizations. The indices are divided according to subject matter, central processor, programing language, and source.

Telephone Interview Audience Analysis of WPSX-TV—Its Measurement and Evaluation, Samuel S. Dubin and others, Pennsylvania State Univ., University Park. Continuing Education, 1968, Available from Continuing Education, The Pennsylvania State University, University Park, Pa. 16802 ($2.00), 28p, ED 028 651.

Of the sample contacted (N=1,984) 78% watched the station at least once a week and 15% watched daily.

The Use of Field Data for Improving IPI Materials and Procedures, John O. Bolvin, February 8, 1969, EDRS Price MF 25c, HC 85c, 15p, ED 028 652.

Preschool in Appalachia—School without a Schoolroom, Joel B. Fleming, Available in *Educational/Instructional Broadcasting*, 1969, 2, 3, March, 15-18, 4p, ED 028 653.

The preschool education program takes on four dimensions: a daily television program, a home visitation program, a mobile classroom, and a summer transition program for children entering school in the fall.

ETV Revisited: A Reply to Professor Skornia, Gabriel D. Ofiesh, Available in *Educational/Instructional Broadcasting*, 1969, 2, 3, March, 27-9, 3p, ED 028 654.

The author suggests that educational broadcasters make greater use of communication theory and research in audiovisual instruction in preparing their programs.

Copyright Law Review and ETV, Barbara A. Ringer, Available in *Educational Television*, 1969, 1, 5, March 31, 24-5, 3p, ED 028 655.

The history of copyright law in the United States since 1909 is outlined, with emphasis on educational television's unique position and concerns.

Experience with Supplementary Material to Schools' Television, Gertrud Simmerding, Available in *Educational Television International*, 1969, 2, 4, January, 231-4, 4p, ED 028 656.

The author discusses her experiences in the preparation and application of supplementary materials for two instructional television series broadcast to classrooms in Bavaria.

How Can Broadcast ITV Survive?, Peter J. Dirr, Available in *Educational/Instructional Broadcasting*. 1969, 2, 4, April, 17-21, 5p, ED 028 657.

An analysis of the advantages of broadcast ITV (over closed circuit) leads the author to recommend that the medium remain a part of our educational system and to propose a plan for its use and support in the future.

Learning Resources at the University of California, Santa Barbara—Form Follows Function, Gary Hess, Available in *Educational/Instructional Broadcasting*, 1969, 2, 4, April, 22-7, 6p, ED 028 658.

The closed-circuit television and videotape recording facilities and equipment of the University of California at Santa Barbara are described, with attention given to their applications.

Is Validation What ITV Really Needs?, Don MacCullough. Available in *Educational/Instructional Broadcasting*, 1969, 2, 4, April, 30-4, 5p, ED 028 659.

A Case for Visual Testing, Lynne S. Gross, Available in *Educational/Instructional Broadcasting*, 1969, 2, 4, April, 35-8, 4p, ED 028 660.

Students watching instructional television become visually oriented to the material presented, learning it by visual rather than verbal association. Yet most tests given to determine student comprehension are verbal. To resolve this inconsistency, the author proposes visual testing, a procedure which he explains.

Old Enough to Watch TV; Old Enough to Learn, Available in *Educate*, 1969, 2, 2, March, 41-4, 4p, ED 028 661.

This article describes a doctoral project which measured the success of a commercial television station's early morning, half-hour television series which effectively taught reading fundamentals to preschool children.

Realizing the Reading Comprehension and Literature Aims via an Audio-Lingual Orientation, Chris N. Nacci, American Association of Teachers of Spanish and Portuguese, May 1966, EDRS Price MF 25c, HC 45c, 7p, ED 028 666.

This is a description of an introductory Spanish and Spanish American literature course at the University of Akron. Its major feature is the grouping of 100 plays, novels, and collections of short stories by the students into a 7-point difficulty-interest scale.

Sight and Sound: The Sensible and Sensitive Use of Audio-Visual Aids. Reports of the Working Committees of the Northeast Conference on the Teaching of Foreign Languages, 1969, Mills F. Edgerton, Jr., Ed., Northeast Conference on the Teaching of Foreign Languages, Inc., 1969, Available from MLA/ACTFL Materials Center, 62 Fifth Avenue, New York 10011 (Order No. NEC-69, $3.00), 125p, ED 028 678.

Guidelines for Audio-Visual Services in Academic Libraries, Association of Coll. and Research Libraries, Chicago, Ill., 1968, EDRS Price MF 25c, HC $1.65, 31p, ED 028 796.

These guidelines attempt to assist librarians to recognize and develop their audio-visual responsibilities and to incorporate the newer media within the traditional concepts of library service.

For Storytellers and Storytelling; Bibliographies, Materials, and Resource Aids, American Library Association, Chicago, Ill. Children's Services Div., 1968, EDRS Price MF 25c, HC $1.85, 35p, ED 028 797.

Catalog Now Available

A catalog of U.S. Government films and filmstrips has now been published by the General Services Administration. The 165-page publication, listing films by subject-area and by title, is free. Write National Audiovisual Center, Washington, D.C. 20409; request "U.S. Government Films."—J.O.

Cumulated Resumes

Cumulated resumes for the first 14 monthly issues of *Research in Education* are available for the first time. Those issues of RIE were covered by a Government Printing Office cumulated index, but to check the resumes it has been necessary to refer to the 14 issues of the journal.

The new publication is *Research in Education Report Resumes: November 1966 December 1967*, and is available at $24.50 from the National Standards Association, 1321 14th St. N.W., Washington, D.C. 20005.

Gattegno: "Most of What Goes on in Schools is Wrong"

A new vision of television as a learning tool is central to Caleb Gattegno's new book, *Towards a Visual Culture*. Gattegno, says *New York Times* reviewer Ronald Cross, "really is what McLuhan is mistakenly accused of being: an apostle of television as the source of man's cultural evolution." Gattegno's strength lies in the fact that he is not so much a brilliant prober or yea-sayer for the tube, but rather a researcher and technician fully capable of constructing scenarios for TV learning experiences which are powerfully persuasive; that offer a vision in black and white of what children *could* learn if educators depended more on the child's openness to learning and less on beating data into his skull.

As a constructor of learning programs, Gattegno has impressive credentials; he has developed highly regarded reading and mathematical and musical learning techniques (one hesitates to call them 'teaching techniques,' for the focus is on the learning child rather than on the teacher) and has worked with notable success in applying his methods in New York's P.S. 133. Nearly half the book consists of demonstrations, in the form of scenarios, of precisely what he has called up as an ideal in the other half of the book.

"If Gattegno is right," says *New York Times* reviewer Gross, who leaves little doubt that he believes him to be right, "then most of what goes for teaching in our schools today is wrong." Gattegno has a vision of what should be done, both in theory and in hard example, says Gross, but he is "childishly naive about education as a social, economic and political enterprise." What is needed is the cynical realism of Anthony Oettinger about the 'ed-biz' as an institutional structure which seems to be ideally designed to resist change, combined with Gattegno's suggestions on which way to move. Times reviewer Gross concludes, "*Towards A Visual Culture* suggests the sort of radical imagination needed to ensure that what emerges is not merely an automated version of the present calamity called education."

Tacitus wrote, "they make a desert, [and] they call it peace." Gattegno seems to be saying: "They systematically interfere with children's learning, and they call it education." The book is published by Outerbridge & Dienstfrey, 200 West 72nd Street, New York.–J.O.

In addition to surveying library school curricula, the committee collected and evaluated materials (including books, periodicals, pamphlets, indexes, bibliographies, recordings, tapes, films, and film strips). The materials listed in this bibliography are those which are recommended for consideration and use.

The Use of Coloured Rods in Teaching Primary Numberwork, Vancouver Public Schools, Wash., May 1964, EDRS Price MF 25c, HC $2.10, 40p, ED 028 823.

A review of research literature revealed that the use of colored rods, such as the Cuisenaire materials, in teaching number work gave perceptual support to many relationships. Experiments conducted over 3 years attempted to test some of these relationships.

An Experiment in the Use of Programmed Materials in Teaching High School Biology, Paul Alexander Young, Georgia Univ., Athens, 1967, Available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 67-16246, Microfilm $4.15, Xerography $14.65), 321p, ED 028 922.

Students from two white and two Negro high schools in the Atlantic Public School System participated, with one control and one experimental biology class in each school taught by the same teacher.

The Effectiveness of Individual Manipulation of Instructional Materials as Compared to a Teacher Demonstration in Developing Understanding in Mathematics, Jo Anne Staley Toney, Indiana Univ., Bloomington, 1968, Available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 68-17296, Microfilm $3.00, Xerography $5.60), 115p, ED 028 930.

Student Attitudes and Achievement in an Educational Psychology Course after Micro-teaching, Adrian P. Van Mondfrans and others, Paper presented at the annual meeting of the American Educational Research Association, Los Angeles, February 1969, EDRS Price MC 25c, HC 80c, 14p, ED 028 994.

Film Study Course, Tenth Grade, Fred H. Ziegler and H. James Schulz, Boston-Northampton School District, Mass., 1965, EDRS Price MF 25c, HC 45c, 7p, ED 029 022.

Part of a language arts program developed under an ESEA Title 3 grant, this curriculum guide for film study in the 10th grade is intended to help students (1) view films more critically, (2) understand the procedures of film making, and (3) appreciate the film as a work of art.

Experimentation With Computer-Assisted Instruction In Technical Education. Semi-Annual Progress Report. Report No. R-9, Harold E. Mitzel and others, Pennsylvania State Univ., University Park. Computer Assisted Instruction Lab., December 31, 1967, EDRS Price MF 50c, HC $4.20, 82p, ED 029 082.

A paper and four research studies involving computer assisted instruction (CAI) are reported.

The Development and Evaluation of a Pilot Computer-Assisted Occupational Guidance Program (Project No. 16033, 17033, 18033) Final Report and Appendixes A-E, Joseph T. Impellitteri, Pennsylvania State Univ., University Park. Vocational Education Dept., July 31, 1968, EDRS Price MF $2.00, HC $27.85, 555p, ED 029 095.

An Exploratory Study of Using a Computer in Curriculum Development, Arthur James Rosser, 1968, Available from University Microfilms, Inc., 300 North Zeeb Road, Ann Arbor, Michigan 48106, 123p, ED 029 140.

The Electronics Curriculum. Eleventh Quarterly Technical Report, Patrick W. Crozier and F. Coit Butler, Jr., American Institutes for Research, Pittsburgh, Pa., January 31, 1969, EDRS Price MF 75c, HC $7.20, 142p, ED 029 156.

Self-study course materials were developed based on the objectives, and General Assembler. Tests were provided for end-of-unit and end-of-course proficiency evaluation.

Evaluation of TV Series "Beginning Sewing" Albany Area, New York Cooperative Extension. Special Report No. 24, Martha A. Cheney and others, State Univ. of New York, Ithaca. Coll. of Agriculture at Cornell.; State Univ. of New York, Ithaca. Coll. of Home Economics at Cornell Univ., March 1969, EDRS Price MF 25c, HC $2.05, 39p, ED 029 199.

A knowledge test covering subject matter of the Beginning Sewing TV series was sent to 344 registrants following the series, to measure the program effectiveness.

Creative Use of Films in Education; A Case Study of an Adult Educational Program for Union Leaders, Duane Beeler and Frank McCallister, 1968, Available from Labor Education Division, Roosevelt University, 430 S. Michigan Ave., Chicago, Illinois 60605 ($1.95), 96p, ED 029 261.

Tele-TESOL in Puerto Rico for the Primary Grades, Virginia M. Welninski, Paper given at the Third Annual TESOL Convention,

Chicago, Illinois, March 5-8, 1969, EDRS Price MF 25c, HC 70c, 12p, ED 029 278.

The program "Play With Me" described in this paper is an attempt to provide an opportunity for the children and teachers to hear English spoken by native speakers.

"The Film and the ESL Program: To View or Not to View," Constance Bordwell, Available in *Journal of English as a Second Language*, 4, 1, Spring 1969, 9p, ED 029 302.

This paper discusses the acquisition of second-language skills through the use of visual aids. In teaching English as a second language, pictures, slides, and film loops are usually presented with appropriate, and more or less predictable, spoken or written English. These visual images, however, may arouse interests beyond the answers provided by the caption or the instructor (e.g., How does a Thai establish the meaning of "polar" in the context of "zoo" upon being shown a picture of a family of polar bears at a zoo?).

The Use of Overhead Projection in Classrooms for the Mentally Retarded, Edward L. Meyen and others, Iowa Univ., Iowa City.; Special Education Curriculum Development Center, Iowa City, Iowa, March 1969, EDRS Price MF 50c, HC $4.30, 84p, ED 029 423.

Hot Lights and Cameras, Basic Techniques for Educational Television, Hub Electric Co., Inc., Elmhurst, Ill., Available from Hub Electric Co., Inc., 940 Industrial Drive, Elmhurst, Illinois 60126 ($1.00), 1968, 36p, ED 029 454.

Planning for Effective Utilization of Technology in Education. Designing Education for the Future, No. 6, Edgar L. Morphet and David L. Jesser, Eds., Available from Citation Press, Educators Service Division, 50 W. 44th Street, New York, N.Y. ($2.00), 1969, 385p, ED 029 478.

This volume presents 34 papers in which 39 authorities from education and industry discuss the contributions that modern technology can make to educational planning, research, and to the improvement of educational programs and the instructional process.

An Analysis of Audiovisual Machines for Individual Program Presentation. Research Memorandum Number Two, James D. Finn and Royd Weintraub, University of Southern California, Los Angeles. School of Education; University of Southern California, Los Angeles. School of Medicine, May 1967, EDRS Price MF 25c, HC $2.90, 56p, ED 029 486.

Factors that count in the selection of an audiovisual machine include the human factor, reliability, safety, technical requirements, cost, manufacturing, distribution, and maintenance considerations. The lack of standards raises problems of conversion which, allied with resulting manufacturing difficulties, makes costs prohibitive.

Strategy and Tactics for Program Preparation. Research Memorandum Number Three, James D. Finn and others, University of Southern California, Los Angeles. School of Education; University of Southern California, Los Angeles. School of Medicine, May 1967, EDRS Price MF 25c, HC $2.10, 40p, ED 029 487.

Audiovisual programs designed to bring current developments in medicine to general practitioners individually are also meant to shape their subsequent behavior. There are many problems in preparing these programs, most of them involved with the fact that the medical consultant and the educational production group must work interdependently. The medical consultant must transmit hard-won and complex knowledge rapidly to the programing staff who will then transmute it into programs.

Tapes Available, Rated M?

The Center for the Study of Democratic Institutions is now making available a series of tapes, up to 15 minutes in length, edited expressly for group discussions for adults. A synopsis and discussion questions are provided with each tape. For a list of tapes now available write to Florence Mischel, Director, Audio Tape Program, Center for the Study of Democratic Institutions, P.O. Box 4068, Santa Barbara, California 93103. Or call (805) 969-3281.—J.O.

The National Film Board of Canada and Its Task of Communication. Final Report, C. Rodney James, Ohio State Univ. Columbus, February 29, 1968, EDRS Price MF 25c, HC $1.30, 24p ED 029 488.

The National Film Board of Canada has, through its films, achieved a world-wide influence, and its uniqueness lies in its administrative structure and its place in the Canadian Government which has enabled it to survive while similar organizations in other countries have succumbed to political and film industry pressures.

Cybernation and Man—A Course Development Project. Final Report, Ralph Parkman, San Jose State College, Calif. School of Engineering, February 28, 1967, EDRS Price 75c, HC $9.60, 190p, ED 029 489.

An inter-disciplinary course entitled "Cybernation and Man," developed by the School of Engineering at San Jose State College, tries to evaluate the many problems posed to man by the expansion of his technology.

Screen Education; Teaching a Critical Approach to Cinema and Television. Reports and Papers on Mass Communications, Number 42, A. W. Hodgkinson, United Nations Educational, Scientific, and Cultural Organization, Paris (France). Mass Communication Techniques Div., 1964, EDRS Price MF 50c, HC $5.20, 102p, ED 029 490.

At the International Meeting on Film and Television Teaching held in Norway in 1962, experts and specialists from 18 countries came together to discuss aims, methods, and means whereby people, especially the young, would be helped to deepen their enjoyment of the cinema and television.

Feasibility of Using an Experimental Laboratory for Identifying Classroom Multi-Media Problems and Requirements. Final Report, William P. Kent and others, System Development Corp., Falls Church, Va., June 1968, EDRS Price MF 50c, HC $5.65, 111p, ED 029 492.

Multimedia can significantly improve education, but only to the extent that their impact is perceived and planned for. Annual cost of a comprehensive, multimedia development laboratory is roughly estimated at $2,000,000. It is recommended that the Commission on Instructional Technology favorably consider the feasibility of such a laboratory. A bibliography and descriptions of various operations presently making use of multimedia are appended.

Theory for the New Media in Education; Proceedings of a Work Conference to Study the Role of Scientific Theory in Developing and Applying Research on the New Media in Education. Educational Proceedings Series, Number 1. August 1968, Michigan State Univ., East Lansing. Coll. of Education, August 1968, EDRS Price MF $1.50, HC $18.20, 362p, ED 029 493.

Audiovisual Script Writing, Norton S. Parker, Available from Rutgers University Press, New Brunswick, N.J. ($12.50), 1968, 336p, ED 029 494.

In audiovisual writing the writer must first learn to think in terms of moving visual presentation. The writer must research his script, organize it, and adapt it to a limited running time. Camera angles, optical effects, and background atmosphere come primarily through experience.

How to with P.I.; A Systematic Approach to the Use of Programmed Instruction. Volume III, the Draper Project. Final Report, John M. McKee and Donna M. Seay, Rehabilitation Research Foundation, Elmore, Ala. Draper Correction Center, 1968, EDRS Price MF 50c, HC $4.65, 91p, ED 029 495.

Development of Computer Aids for Tape-Control of Photocomposing Machines; Implementation, Hardware, and Other Systems. Final Report, Section C, American Mathematical Society, Providence, R.I., January 1969, EDRS Price MF 25c, HC $1.00, 18p, ED 029 496.

The Selection and Use of Teaching Aids, A. J. Romiszowski, Available from International Text Book Co., Ltd., Parkgate Road London SW 11, England ($2.16), 1968, 167p, ED 029 497.

Teaching aids, properly chosen and skillfully presented, should provide a variety of instructional methods and enhance the amount of actual learning which occurs. In order to help the teacher choose the best teaching aid for a given instructional task, a systems approach to media selection is outlined, and a checklist of questions is presented to aid in decision-making.

Six New Papers Issued by Clearinghouse

Six new papers have been issued by the clearinghouse in recent months, dealing with such subjects as computers in education, evaluating educational projects, the flow of educational knowledge, evaluation of an on-line information retrieval system, and instructional media centers.

Single complimentary copies of some of the papers are still available direct from the clearinghouse, and in cases where the supply has been exhausted information will be provided to allow them to be ordered from the ERIC Document Reproduction Service in Maryland.

An Interactive Information System—Case Studies or the Use of DIALOG To Search the ERIC Document File, by Michele Timbie and Don Coombs, presents the generally favorable results of confronting nine people with a computerized retrieval system, or vice versa.

Sources of Information on Social Issues: Education, Employment, Public Health and Safety, Population, Etc., by William J. Paisley, is a brief guide "for journalists and others."

A Review of Educational Applications of the Computer, Including Those in Instruction, Administration and Guidance, by Robert M. Morgan, calls for careful and systematic planning of such applications.

Understanding Research: Some Thoughts on Evaluating Completed Educational Projects, by Karlene H. Roberts, is a methodological primer for educators who wish to base policy decisions on research.

Knowledge Linkers and the Flow of Educational Information, by Richard S. Farr, draws together the research on the important question of how educational innovation can be encouraged and exploited.

Instructional Materials Centers, by Don Coombs, William J. Paisley, Michele Timbie, Len Schwarz and Henry Ingle, is the first Series Three booklet issued by the clearinghouse. The key documents in the ERIC collection, whether processed into the system by the Stanford clearinghouse or one of the others, are identified, and ordering information is supplied. The Instructional Materials Centers documents can be purchased, on 72 microfiche, as order number MT 852 001 for $18 plus 50c handling charge, from EDRS, 4936 Fairmont Avenue, Bethesda, Maryland 20014. In the next few months, eight or nine additional Series Three collections will be announced.

BULLETIN
from
the ERIC Clearinghouse on Educational Media and Technology
at the Institute for Communication Research
Stanford University
Stanford, Calif. 94305

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ERIC at Stanford

The Clearinghouse on Educational Media and Technology

The 13th: A Different Newsletter

This 13th issue of *Now Available*, the ERIC at Stanford newsletter, is given over almost entirely to summary of and comment on the Commission on Instructional Technology Report. As a result, the usual listings of documents recently added to the national ERIC collection have had to be curtailed.

Starting with *Now Available No. 14*, the listings will be departmentalized so that if you are primarily interested in microteaching, or in educational broadcasting, the relevant documents will be grouped together for you. Some of the decisions as to how to departmentalize have been sticky, and when you see the results you may well have comments and alternative suggestions. Please consider them solicited.

Now Available No. 14 will also feature another in the series of papers prepared for the newsletter by Henry C. Alter, and more items of interest from John F. Ohliger, a contributing editor.

Should you not now be on the clearinghouse mailing list to receive the newsletter, and should you wish to be, please let us know.

McMurrin, Moynihan Speakers at Conference on CIT Report

Speculation on the impact, and the potential impact, of the Commission on Instructional Technology Report reached a high point in Washington D.C. early in April. About 70 educators and representatives of media associations participated in an Educational Media Council-sponsored conference on the report.

In general, those with a great deal of personal effort invested in the CIT report—such as Commission Chairman Sterling M. McMurrin—remained optimistic about its recommendations being implemented. The trade press, exemplified by the *ETV Newsletter*, remained skeptical: "From many indications, Administration interest in the CIT recommended Institute of Instructional Technology is very dim."

McMurrin said that "What has taken place is about as much as we—the commission—could realistically have expected to take place."

The CIT report urges that a number of national educational institutes be established, with one being the Institute of Instructional Technology. The Administration (Continued on page 3)

Carpenter Summarizes CIT's Work AND the Report*

By C. R. Carpenter
Research Professor of Psychology and Anthropology
The University of Georgia

The efforts of the Carnegie Commission on Public Broadcasting produced the widely distributed report, *Public Broadcasting: A Program for Action*, and expeditiously provided the basic conditions for establishing the Corporation for Public Broadcasting. Left for another commission was the complex problem of instructional television. Legislation in 1967 extended the federal aid program for television and radio facilities and authorized the Corporation for Public Broadcasting. That same legislation authorized a federal or national commission to conduct a study and prepare a comprehensive report for the President of the United States on the status, potentialities, and roles of television, radio, and other communication technologies which might serve educational needs and future developments.

The nine man Commission on Instructional Technology was selected and recommended by U.S. Commissioner of Education Harold Howe II and appointed by Secretary of Health, Education, and Welfare Wilbur Cohen in the spring of 1968. It was given a deadline of June 30, 1969, to complete the report to the President.

An authorization of $500,000 was made for the work of the commission, but funds were not appropriated by congress. The U.S. Office of Education therefore provided funds and contracted with the Academy for Educational Development to administer and support the activities of the commission.

The commission consisted of Sterling M. McMurrin, dean of the graduate school, University of Utah; David E. Bell, executive vice president, The Ford Foundation; Roald F. Campbell, dean of the graduate school of education, University of Chicago; C. Ray Carpenter, research professor of psychology and anthropology, The Pennsylvania State University and Uni- (Continued on page 2)

*ERIC at Stanford presents this version of the Carpenter summary with the permission of the *Educational Broadcasting Review*, which will be publishing Carpenter's paper in the April 1970 issue. These are Carpenter's own views of the commission's activities and of the report; as of early 1970 the complete report was available, for 50c, from the U.S. Government Printing Office, Washington D.C. 20402, as "To Improve Learning, A Report by the Commission on Instructional Technology."

(Carpenter, cont.)

versity of Georgia; Nell P. Eurich, dean of the faculty, Vassar College; Harold B. Gores, president, Educational Facilities Laboratories, Inc.; A. Leon Higginbotham, judge, U.S. District Court, Eastern District of Pennsylvania; Kermit C. Morrissey, president, Community College of Allegheny County, Pennsylvania, and Kenneth E. Oberholtzer, former superintendent of schools, Denver, Colorado.

Dean Sterling McMurrin was appointed chairman and he selected C. Ray Carpenter and Kenneth Oberholtzer to serve with him as the executive committee.

The Mission

The task assigned the Commission on Instructional Technology (CIT) was broad and complex. In the original language of the proposed legislation the work of the commission was limited to the broadcast media and especially radio and television. Hearings before the Subcommittee on Labor and Education, however, extended the responsibilities of CIT to study the full range of telecommunications, electronic and communicational technologies which are or may be useful to instruction. The other main dimension of the described task as extended by Commissioner Harold Howe II for the commission at its first meeting was coverage of all levels of education and all areas of acute educational problems from preschool to advanced continuing professional education.

It was suggested that special attention be given to how modern communication technologies might assist in the improvement of the schools of large cities and provide instruction for the disadvantaged, including widely dispersed rural peoples. Furthermore, it was requested that the commission define the roles and functions that the federal government should serve in the area of educational and instructional technologies. Most specifically it was urged, also, that from the ten-year background studies and recommendations of the Media Advisory Committee of NDEA Title VII, the roles of the U.S. Office of Education be clearly redefined.

In anticipation of the needs for information, the Research Division of USOE—under the initiative of Andrew Molnar—contracted in 1967 for a series of studies, the results of which would be made available to the commission when it began its work. Among these studies, three were of special significance:

1. An informal inside study was done of the amount of funds annually invested in media and related resources and activities by the U.S. Office of Education. The study showed that about three-quarters of a billion dollars was in some manner being invested in educational-instructional media technologies, projects, and programs, including the print media.

2. Chu and Schramm (Godwin G. Chu and Wilbur Schramm, *Learning from Television: What the Research Says)* once again reviewed studies of learning from television.

3. Carpenter and Carpenter (C. R. Carpenter and Ruth Carpenter, *Quality Factors in Instructional Materials)* investigated, by intensive authority seminars, factors contingent to the quality of instructional media, with emphasis on television. Other studies were concerned with the potentials of computer assisted or regulated instruction and system designs applied in instruction.

Methods and Procedures

The work of the commission was ably administered by Sidney G. Tickton of the Academy for Educational Development (AED). Judith Murphy and Ronald Gross did the difficult job of writing many versions and the final draft of the CIT report. Howard Hitchens and Robert Snider served as consultants. Staff support was provided by research assistants Louise Abrahams, Lane Carpenter, Patricia Wagner, and Nikki Zapol.

Of first order of importance was the work of providing the commission with a sound, broad, and adequate information base for its considerations, deliberations, debates, and recommendations. Accordingly 133 papers on pertinent subjects were requested and commissioned by AED. For example, Robert Hudson prepared a paper on "The Future of Educational Television," Allen Kent contributed a document on "Information Science: Media Implications of the New Means of Information Organization," Charles Schuller developed a thorough statement on: "Production Facilities Needed in Order for a University to Adequately Satisfy Its Instructional Technology Requirements," and Anna Hyer and Leslie P. Greenhill prepared essays on instructional technology developments in England and Japan respectively titled "Activities of the National Council for Educational Technology in Great Britain," and "The Expanding Usage of Instructional Technology in Japan."

About 85 other papers were collected or contributed and made available to each of the commissioners. Examples of authors and subjects in this category were Robert Gagné, "Learning Theory, Educational Media, and Individualized Instruction," John Dietrich and Craig Johnson, "Cost Analysis of Instruction," James Miller, "The Nature of Living Systems," and James Coleman, "Equality of Educational Opportunity." Thus a total of over two hundred documents, reports, collections, resource papers, and books were made available for study by the commission.

Robert Snider and Howard Hitchens carried out special assignments of collecting and preparing information. Snider represented the professional audiovisual or instructional technology fields and Hitchens, then at the U.S. Air Force Academy, reviewed developments in the use of instructional technologies in the Department of Defense, and especially in military training. Hitchens emphasized instructional developments and materials in the military which could be emulated and transferred to the civilian sector for its uses in a wide spectrum of instruction and

Overhead Projectors—287,000 More in 9 years

A guide for teachers in the use of transparencies occupies more than 20 pages (others offer transparencies and other equipment for sale) in Technifax's "A Teacher's Guide to Overhead Projection." Intended not only for school teachers but also for teachers in government, in business and in industry, the 98-page publication offers an excellent discussion of the uses of the overhead projector as an instructional tool. Free on request from Technifax Education Division, Holyoke, Massachusetts 01040.

The astonishing rate of growth in overhead projection in the last decade is revealed by figures in the "Guide." The overhead projector's "current rate of growth far outdistances any other visual device," says the "Guide." "In the public schools of this country the number of overhead projectors in use has increased from 13,000 in 1961 to over 300,000 today."—J.O.

(Carpenter, cont.)

training.

Site visits were made by the commission as a whole and by its members. One site visit of great interest and value was to the U.S. Air Force Academy at Colorado Springs. This institution exemplifies the application of a wide range of architectural and media technologies arrayed to provide approaches and solutions to many different instructional problems. While it was near Denver, the CIT went to Lowry Air Force Base where teaching-learning laboratories were visited and programed instructional procedures were observed. Other site visits were made to a Job Corps camp in California, to a school in Palo Alto, and to Stanford University, where computers are used for assisting or regulating the learning of young children. Visits were made to the instructional materials production center at Newton, Massachusetts, and to an educational television broadcast station, WGBH-TV, in Boston. The commission attended the 1969 DAVI Convention in Portland, Oregon, to survey equipment exhibits and to hold seminar discussions and regular meetings. It also attended the 1969 NAEB Convention in Washington D.C. Other site visits were made by individual commission members and by AED staff members, and reports were prepared for the commission.

Special equipment and methods demonstrations showing examples of films and tapes were presented to the commission in Dearborn when it studied industrial training methods for workers of the inner city, and in Cambridge where it studied advanced instructional technologies and educational facilities.

The commission did not hold traditional formal hearings, but a few selected individuals were invited to give evidence and professional judgments. Among these, for example, were William Harley, James Miller, John Macy, and Edwin Cohen. Some professional groups were invited for discussion of their work and perspectives on broad and long-range learning technologies. For instance, the Educational Media Council met with the commission at the Ford Foundation building in New York, and each representative presented his views and suggestions and responded to inquiries.

When important questions arose on which the commission needed sound and useful judgments, selected individuals were brought to Washington from wherever they were in the nation for "instant seminars." A few commission members always attended these seminars, and recordings of the discussions were made and transcribed. "Instant seminars" were held with representatives of disadvantaged urban students, experts on satellite developments, and national leaders in the educational television and radio broadcast fields.

It should be obvious by now that the CIT was provided with a vast amount of information pertinent to its defined and complex mission. No member, unless he were free to work full time on commission business, could have read and studied all of the materials that were made available to him. Carpenter attempted to reduce the reading demands and increase coverage of the literature by providing the commission with over 800 bibliographic references and abstracts of literature in the area of communications and instructional technology. There were also available some reports and information services from the ERIC Clearinghouse on Educational Media and Technology at Stanford University.

From the discussions and debates following the provision of extensive information there began to develop judgments and opinions in the commission. Some issues were debated intensively, especially those which related closely to emerging recommendations. Generally the commission worked in a critical but constructive and imaginative mood.

After several months, the professional staff writers, especially Sidney Tickton, Judith Murphy, and Ronald Gross, wrote successions of tentative drafts of reports and recommendations. These were often sent to CIT members for intensive study and content editing. The drafts were criticized extensively in full commission sessions. The writers had a triply difficult task of (1) representing and translating the states of the arts—the prevailing conditions of instructional technology, (2) of informing members of CIT, and (3) of acting as mediators for the final judgments and recommendations.

General Issues Confronted by the CIT

The Issue of Definitions. The CIT early in its deliberations was compelled to arrive at a consensus on whether it was to focus deliberations on teaching, or learning, or both. Instruction was defined to include both teaching and learning, but the CIT agreed to put its major emphasis on the learning processes and conditions and contingencies affecting learning. In one sense its task was to understand how technologies from books to computers and satellites could be used to design and create optimum conditions and contingencies for complex human learning and personal development.

After considerable disputation, technology was defined to mean not just the equipment and hardware configurations but also to include people, personalities, and human factors and skills as well as programs or software. An escape by means of semantics was never quite provided, however, for avoiding the distasteful and inelegant terms *hardware* and *software*. Nevertheless, technology was given a very broad interpretation so as to encompass all elements on an instructional activity or holistic operation including the terminal learning effects and behavioral or performance changes.

Early in its work in 1968 CIT members felt there was considerable ambiguity about the issues of the humanistic

(McMurrin, Moynihan, cont.)

has asked, instead, for one general agency, the National Institute of Education. "The one institute now being talked of is just the beginning," McMurrin said. "I don't think they can stop there."

McMurrin said there was good indication that an institute will be established. "The Office of Education is currently engaged in planning such an institute, and there is every evidence that the Office of Education will push, and push hard, for it."

Daniel P. Moynihan, special counsellor to President Nixon, spoke to a luncheon session of the conference and indicated there would be solid administration support for a 150- to 250-million dollar budget for a National Institute of Education. When told that some people see the proposal of a National Institute of Education as a delaying tactic, as a means of not doing anything for a long time, Moynihan termed the criticism "anti-intellectual."

"You do what you can," he said. "It's a false dichotomy to say that either we do things now or we wait a long time. But we can expect fairly high returns from inquiry right now."

Those attending the conference supported formation of a National Citizens Committee on Instructional Technology, to help get action, and favored congressional hearings on legislation with goals similar to those in the CIT report.

The Moon, in 500,000 Words

A mixed media kit of materials relating to man's conquest of the moon has been assembled by the New York Times' Educational Division. The kit, called *Man on the Moon*, contains an estimated half million printed words and 10,000 spoken words. Besides a special paperback, the kit contains 373 feet of motion picture film, 250 filmstrip frames, two 12-inch LP's and an hour of audio-tape. A complete teaching manual, proposing usages of various combinations of the materials for every age-level, is also included. Price, $94.50. Contact Book and Educational Division, New York Times, 229 West 43rd Street, New York, N.Y. 10036.–J.O.

(Carpenter, cont.)

values and the effects of technology on people. At that time possible dehumanization of people by mass media and the machines of contemporary society were subjects for vigorous discussion. Eventually sets of neutral instrumental functions were ascribed to *technology*, especially when the term was defined to include human factors and performances.

A final definitional issue was that of the research and development scale or continuum. The commission sought to conceptualize a continuity of effort ranging from pure theoretical research at the left extreme through research development to demonstrations and field trials to eventual full-scale operations. The research and development plus dissemination as prescribed by NDEA-Title VII, Sections A and B, did not seem to be entirely adequate. Accordingly, the full range of sequential activites from research through development to application–or R, D and A–came to symbolize the whole operation for the commission, and so R, D and A are terms used prominently in the final report.

Issues of Present States of Affairs. Issues were stated and questions raised about the efficacy and extent of use of technologies in education. When a broad spectrum of information and communication technologies ranging from printing to satellites is reviewed and evaluated relative to effectiveness, usefulness, and acceptance, it can be seen that there is great variability on all dimensions of a systematic evaluation. Effectiveness and acceptance, although positively related, may not be highly correlated. Print, duplication, telephonic, and computer technologies have been extensively accepted, purchased and put to use in education. Radio, television, and motion picture technologies seem to have potentials and promises beyond the level of their acceptance for formal instruction. The CIT raised the question of "What are the conditions which have led to the irregularity of acceptance and use in education of different modern communication technologies?"

A related issue was that of determining the conditions, contingencies, and functions which can or should be mediated by equipment components and systems, and those which can or should be mediated by people–teachers, other professionals, technicians, and support personnel. Can there be trade-offs, the commission asked, between the uses of equipment and the work of people? How can the efforts and energies of teachers be extended, multiplied, and made precisely appropriate to defined functions? How can instruction by using appropriate technologies be made more effective, efficient, and productive? If cost benefit data were available, which they are not, would this information increase the effective and appropriate use of available instructional technologies?

Generally Accepted Propositions

After consideration of these and related issues and questions, the commission generally accepted a number of propositions:

The communications revolution of the past fifty years has provided education with tools and instruments that have great potential worth for education.

The growing needs and demands for education in all world populations generally tend to exceed the abilities of organized educational institutions to meet these needs and demands.

The more successful an educational effort is, the greater the demands will become because education is a demand creating enterprise rather than exclusively a demand satisfying enterprise.

There is urgent need for developing and using the total systems operations approach to designing and implementing instructional technologies.

The equipment and instrument systems now available exceed in sophistication and potential usefulness the levels of knowledge and skills required for their full use to provide good conditions for learning at many levels of education.

There is extensive need for a wide range of research on human learning, and also need for integrating, interpreting, and applying to education the available results of research.

There are in this nation and all over the world vast riches of books, films, tapes, objects, and art forms that are not actually available for use when and where needed in instructional situations and programs.

The media of print have been well developed by education-related industries but the same level of adequacy has not been reached for multimedia-systems-approaches to instruction and especially for the newer electronic media.

The present organization of efforts on the federal level where the responsibility of the commission rests–is not adequate to accomplish what needs to be done and therefore other organizational arrangements are required.

Strong and sustained leadership is needed to stimulate, coordinate, and guide needed developments on the state and local levels.

However, there should be a balance of emphasis and effort on the local, state, and national levels.

The extent and challenge of the task of developing and using relevant and urgently required technology of instruction requires coordinated private and public efforts and expenditures.

Adequate risk capital for new development and research and for production and testing instructional programs for the newer media is not available in sufficient amounts from private sources and, therefore, the federal government must provide this research and development capital.

Regardless of the adequacy and relevance of research data and detailed information, life-like holistic demonstrations of large scope that are clearly and evidently successful are needed to introduce and set visible model patterns for new systems of instructional technologies.

Areas of Uncertainty

There were areas of thought, judgments, and information about which the commission of necessity was uncertain and ambiguous. This was true partly because of the lack of or limits to information, and partly because of the differences in judgments honestly held by members of the commission and of the staff of the administering Academy for Educational Development.

There was uncertainty in the commission about the adequacy of valid results and information about the conditions, principles, and processes of human learning.

There was a lack of consensus about the extent to which modern communication technologies have been

(Carpenter, cont.)

shown to be successful or unsuccessful.

As has been indicated above, there was extensive debate about the theme of the dehumanizing effects of educational technologies, and more specifically about the effects on subjective value commitments of children and youth, the effects on attitudes and on behaviors over a wide range of activities extending from creativity to aggressivity, crime, and violence.

There was uncertainty about whether or not and to what extent instructional technologies, particularly the computer, should be used for individualizing instruction, for distributing information to dispersed populations, or for transforming and displaying information to facilitate learning.

The commission could not be very definitive, on the basis of its information, about what major new technological components of instructional systems need to be developed, like response systems, satellite relays, and mode transformation devices. Neither could the commission prescribe with precision how existing technologies could best be employed to resolve the educational problems of the inner city, to meet the needs of minority and disadvantaged groups, and to reach effectively the inaccessible poor of rural areas in mountainous regions or the broad extended plains.

Except to recommend explorations and demonstrations, the commission could not specify how to incorporate rapidly advancing new technologies of information storage, retrieval, and distribution with coherent, practical, and optimized instructional systems. Nevertheless it proposed means for attacking these problems.

Perhaps the area of greatest uncertainty for the commission was that of cost-benefit relationships—cost, first, of instructional technological systems and second, cost of putting into effect the several recommendations that the commission made to the President and congress.

Recommendations

First, the commission recommended the establishment by congress of a number of National Institutes of Education within the Department of Health, Education and Welfare. The several program-oriented institutes should be broadly authorized to develop, support, and provide funds for greatly strengthened programs of educational research, development, and application (R, D and A). Clearly in making this recommendation the commission used the model of the National Institutes of Health and thus prepared the way for its next recommendation, which grew centrally out of its mission in the field of instructional technology.

The first and general recommendations grew out of the strong conviction of the commission members that the development and uses of instructional technologies had to be conceived of and conducted in a functional educational context where technologies serve instrumentally for achieving specified learning goals.

The second recommendation was for a National Institute of Instructional Technology (NIIT). This institute was selected as the means that could be employed at the federal level for advancing research, development, and application of equipment, programs, instructional materials, and integral systems of these. Other activities prescribed for the NIIT would include encouragement of programs of training people in professional and technical skills needed for developing and operating advanced technical systems for instruction and learning.

The commission proposed, furthermore, that the Research and Development Centers and Regional Educational Laboratories which are now administered by the U.S. Office of Education under Title IV of the Elementary and Secondary Education Act of 1965, and which are appropriately involved with instructional technologies for learning, be administered in the future by the proposed NIIT.

Furthermore, the NIIT would be authorized to extend established centers or to build new ones as required to carry out the mission. In addition to this program, it was recommended that the principal research, development, and application programs in the broad media field of the USOE be transferred to the National Institute of Instructional Technology. Thus the commission visualized clearly the possibilities of federally administered programs in the broadly defined areas of instructional or learning technologies. There should be a network of an adequate but not excessive number of these centers and laboratories located throughout the nation.

In a period when Research and Development Centers and Regional Educational Laboratories—which together span the range of theoretical research to effective applications—are being discontinued, it must be encouraging to those responsible to have a presidential commission express confidence in their efforts and to recommend strengthening and expanding the program.

The commission's third recommendation proposes that NIIT initiate and develop a unique kind of library facility and activity. It would be unique because of its emphasis on searching the national and world fields for materials that may be secured and transformed into useful and available stimulus materials for learning. The cataloging and storing of printed materials would not be emphasized. It was visualized that the clear underdevelopment of soft-

Rote Learning Defended

To the Editor:

I want to thank you very enthusiastically for publishing the article by Henry C. Alter, "Media, Progress, Balance and the Silent Majority," in issue No. 12. This is one of the most thoughtful and forceful comments on the "silent majority" and the role of the media that I have ever seen.

There is one statement in Alter's article that I believe requires correction: "Rote learning may be replaced by disciplined thought." Rote learning will never be replaced. There is simply no other way to learn the basic skills of human culture, including language, reading, arithmetic, on through to art, musical performance, cooking, tennis, driving a car, and all the rest. We may, however, hope for more efficient and less tedious methods of rote learning, and here is where educational technology (programmed instruction, "teaching machines," contingency management) will be productive.

Moreover—and this, I suspect, is what Alter had in mind—efficient rote learning will allow all learners to acquire rapidly that basic fund of skills upon which disciplined thought must be based, and will permit formal education to concentrate its energies on the development and elaboration of disciplined thought.

Evalyn F. Segal
Director, The Institute for Child and Family Development
The University of North Carolina at Greensboro

(Carpenter, cont.)

ware, relative to hardware, should be corrected by a strong effort to secure, adapt, and use materials and programs that exist but are not actually available.

The second phase of the solution to providing a hardware-software balance was not neglected, but neither was it emphasized in the commission's report. That phase is the provision for a national complement of instructional program production centers. In this domain the national requirement and private enterprise urgently need to cooperate to produce quality nonprint instructional materials in large but carefully designed quantities. Here the required investment of capital is high, and it appears that private industry does not have the investment capital necessary to provide for the production of what can be seen to be ideally required.

Evidently the Corporation for Public Broadcasting and its projected programs intersect at many points with the recommendations of the commission. Indeed, the National Institute of Instructional Technology could be a sound but larger wing of this broadcasting operation. The two wings could be formal and semi-formal instruction and learning, as the first, and informal public information and cultural broadcast programs as the second.

The commission's fourth recommendation was directed to extend and replace previous and ineffective dissemination programs and to provide a means of showing what really can be done by advanced instructional technology systems. Also, this recommendation was focused on defined target populations. It was realized that the time is late for the inner city or for the rural zones of poverty and neglect. A fullscale dramatic emphasis is justified, the commission felt. Thus a living, holistic, brilliantly conceived and fully developed demonstration is proposed for none other than the entire educational system of the nation's capital and the surrounding suburbs.

Let the beautiful but sick city of Washington be a proving ground for all of the best that can be done, advanced technology included, to exemplify to the whole nation and to the watching world how to build a model educational system by all means necessary, including all relevant instructional systems peaked to maximum efficiency and effectiveness. To launch this full-scale demonstration, the costs will be great, and the efforts as demanding as war. There will be great risks but the possible rewards and substantive gains may be worth the focused attention, efforts, and energies of this affluent nation.

Recommendation five grew out of the developed sensitivities of commission members to critical needs for better people, better trained than presently, at all levels of the educational system. In particular the commissioners sensed and judged the need for greatly improved skills for administration and management of most educational enterprises. Here many training programs, including the Education Professional Development Act that is now in effect, needs to be expanded.

The province of professional education needs to realize and to use the contributions that may be made to the mammoth job of educational management by other professional development agencies like schools of business, engineering, law, and of course the arts and sciences. New advanced professional training activities may need to be invented. The irrational resistance of education generally to scientific and technical advances may not be unrelated to the lack of highly developed managerial skills and abilities in educational administration.

The sixth recommendation of the commission relates to the desideratum for activating and releasing the potential powers of cooperative work between federal and state agencies and business and industry. The commission suggested that a National Council of Education and Industry, with appropriate representation, could effectively serve important innovative and development functions. Such a council properly conceived and executed could actually achieve the ideal aims long sought by the present but weak Educational Media Council. In such a council, properly operated, the ambiguity of governmental representatives and the timidity of great industries for doing what needs to be done in education may be overcome.

Irrational and wasteful equipment purchasing activities could be changed to sound management and effective procurement. Duplication of effort on materials and equipment may be related to needs for really innovative and useful equipment developments. Antiquation, lack of adequate functional specifications, variable and incompatible standards, copyrights, and restraint of trade are some of the problems that a national council could attack and solve.

The Most Difficult Decision

No issue that confronted the commission was more difficult than that of deciding on the cost of its several recommendations to the federal government. In a nation of this size with a population of two hundred million people and a gross national product approaching a trillion dollars, what is the amount of money that the federal government should invest in instructional technology? What is that

8-mm Cassette Featured in New UNESCO Report

"Eight Millimeter Film for Adult Audiences" is the title of UNESCO Report on Mass Communication No. 54, by Geoffrey Bell. The 40 page report explores the many aspects of the exploding technology and use of 8mm film, but focuses particularly upon the new self-rewinding 'continuous' four-minute single-concept snap-in film cassette. Technological advance has made 8mm film of today the equal in visual adequacy of 16mm film of a decade ago, says Bell, and with each frame taking up ¼ as much film-space, cost savings are considerable—often enough to make owning, rather than renting, an option for educational institutions. Particularly is this true, says Bell, for the cassette.

Such a loop can be used over and over, used by students in a simple loop projector which has only three adjustments (on-off, focus and frame adjustment), can be used easily by a teacher as he lectures, will last twice as long as handled film, and can even be shot by the instructor and put in a cassette by one of several companies. This basic teaching-tool unit costs $4 to $10 per cassette, and the simple projector one to three hundred dollars.

Bell devotes five pages to specifically spelling out how cassettes can be and are being used in Adult Education from Agricultural to Vocational Training. He makes a strong case indeed for this new tool in his booklet, which media philosophers of the future may look back on as the single-concept cassette's Declaration of Independence. Available at $1 from UNIPUB, Inc., 650 First Avenue, New York.—J.O.

(Carpenter, cont.)

critical level of investment which will make a practical and significant difference in the effective uses of educational technologies? What is the threshold level where funds in smaller amounts will produce inadequate results and in larger amounts are excessive?

Involved are many factors that are complexly related and algebraically summed. With admittedly fewer facts than desirable but with the best judgments that could be summoned, the commission estimated that reasonable costs of all recommendations could amount to $565 million for the years 1971 and 1972: $150 million for launching the National Institutes of Education; $250 million for research, development, and application activities of the National Institute of Instructional Technology; $25 million for the new search, find, procure, transform, and make available library activity; $100 million for the federal government's part of the full-life demonstration model development in Washington, and $40 million for training and professional development of people in education with special emphasis on the needs for communication and learning technologies.

Thus stands the report entitled *To Improve Learning*, prepared by the Commission on Instructional Technology and now at long last revealed and ready for public debate.

Chester Assesses Impact of Media on Politics

A searching assessment of media impact on politics is found in the new book *Radio, Television and American Politics* by Edward W. Chester. Though focusing on the political impact of radio and television, the book compares impact and public perception of these media to that of newspapers and, to a lesser degree, magazines.

Chester offers some interesting thoughts on long-ago politicos: "Some historians have theorized that, had radio come into use only a half-decade earlier, Woodrow Wilson would have carried his case for the League of Nations to the American people and been victorious." As it chanced, of course, Wilson instead undertook an exhausting whistlestop campaign across the nation and collapsed, broken in spirit and in health.

Of "Silent Cal" Coolidge, whose image to this day is that of taciturn uncommunicativeness, Chester says that—on the contrary—Coolidge had a pleasing radio personality, spoke often on the infant radio system of the day, reached his fellow countrymen well, and "placed fourth in a poll of American radio personalities conducted in the mid-1920's; he ranked ahead of the inimitable Will Rogers."

Of early radio and politics, Chester suggests that "as Lewis Weeks has more recently pointed out, 'The effect of the 1924 election on radio was more important than the effect of radio on the election result,' since 'Coast-to-coast broadcasting was proved practicable through the use of long distance telephone lines for the interconnection of radio stations across the country.' " As for the political impact of radio spellbinders like Father Coughlin and Huey Long, "In the spring of 1935, Paul Hutchinson observed, 'When you discover how enormous is the radio audience which Huey Long has already reached, it is difficult to believe that he has spoken only four times over a national hookup.' "

"By 1956," says Chester, "television definitely had become a more important source of information during the presidential campaign than radio. In 1958 the 96 members of the United States Senate were asked the question, 'If you were to single out just one thing which you did during your most recent election, which would you say got your message across best?' The responses were as follows: television 53%, newspapers 38%, radio 3%, outdoor advertising 3%, and direct mail 3%. Significantly, Senator Barry Goldwater, triumphantly re-elected to the Senate during that year's election, ignored the above-mentioned media categories and wrote in 'personal appearances' as being the one most effective means of reaching the voters; this may in part explain why his television appearances during the 1964 presidential race did not win him more votes."

A post-1964 Roper survey "found that most people regard television as the most politically neutral medium and . . . the chief source of political information at the national level." If is interesting that despite the agreement between politicians and public that television had become the most important political medium, "national committeemen of both parties were of the opinion in 1960 that newspapers were the most important source of political information." There is some evidence to suggest that such opinion reflects class and educational-level bias.

Probably the most important single media-political interaction so far has been the Great Debates of 1960. "During the 1960 campaign the decisive factor was probably the impressive performance of John Kennedy and the disappointing performance of Richard Nixon during the first Great Debate. . . . Lang and Lang found that 89% of those who watched or heard the first debate thought that Kennedy had outshone Nixon or at least fought him to a draw. Elmo Roper is of the opinion that 6% of the voters (over four million) made their decision on the basis of the first debate alone, of which 72% voted for Kennedy. Significantly, prior to the debates only a small majority of the Kennedy supporters thought he would out-debate Nixon.

"The Gallup poll discovered that . . . among the 'waverers' Kennedy picked up 16% during the [first] debate, while Nixon gained only 4%." In a California survey "Republicans liked the third and fourth debates the most, the Democrats the second and fourth; ironically, the first debate—which may have won the presidency for Kennedy—ranked a poor third among Democrats."

All very simple and straightforward, eh? Well, now hear this: "Yet on radio, Nixon projected far better than Kennedy; not only did a majority of those who merely heard these four confrontations select Nixon as the overall winner, but they also picked him as the victor in the first meeting by a two-to-one margin." On the face of it, it would appear that the physical appearance and 'presence' of the two men must have made the difference, and Chester says nothing to discourage such an assumption, but we wonder what data exist on the make-up of the non-television owning population in 1960; specifically, was it at all randomly distributed, or was there still a significant 'holdout' group among the well-educated and well-to-do capable of skewing the radio sample toward Nixon predilection? May not an alternative conclusion be that in 1960 a smaller percent of Republicans owned TV sets or watched television than did Democrats?

Of particular interest to philosophers of the media will be the complete chapters on the fairness and equal time doctrines and the penetration of the media by purveyors of radical views. Published only a few months ago, the book could not be more "up to date." Available from Sheed and Ward, 64 University Pl., New York, N.Y.—J.O.

New Study by de Kieffer

The Educational Media Council has just issued *Media Milestones in Teacher Training* by Robert E. and Melissa H. de Kieffer. According to the announcement, the report is offered as "a significant historical review, a well-substantiated status report, and a strong indictment of educational media activities in the education of America's teachers."

The report is the third such for Robert de Kieffer, who conducted 1947 and 1957 studies on the extent to which American teachers were being trained to use audiovisual tools. The 1970 report includes a comparative analysis of the three sets of findings.

Single paperback copies are available for $3 from the Educational Media Council, 1346 Connecticut Ave. N.W., Washington D.C. 20036. Reduced rates for five or more copies are available.

Time to "Re-Subscribe"

Tentative plans now call for everyone on the mailing list to be sent an address confirmation card in the next two months. This will have to be returned if you wish to continue to receive this newsletter.

Drug Abuse Materials Cited

An especially good job of collecting materials on drug abuse has been done by an especially good example of a regional information operation, the San Mateo County Information and Dissemination Center in California. Recent publications list all relevant documents in the national ERIC collection and in the center's own collection, and complimentary copies of the bibliographies are available while supplies last.

Marcia Garman, research analyst at the center, and Frank W. Mattas, director, are responsible for the bibliographies. The address is Information and Dissemination Center, San Mateo County Office of Education, 590 Hamilton St., Redwood City, Calif. 94063.

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The 14th: A Different Kind of "Now Available" Service

This is the beginning of a different kind of service from ERIC at Stanford, a departmentalized "current awareness" list. In screening for materials relevant to educational media and technology, we have monitored a great many journals, as well as the documents processed by all 20 ERIC clearinghouses. In this issue of *Now Available*, documents are listed which deal with

Individualized Instruction
Systems Approach
Film
Media Instruction
Language Laboratories
Microteaching
Other Visual Materials
Audio Recording
Centers
Computers
Miscellaneous

In future issues, documents will be listed which deal with

Programed Instruction
Simulation and Gaming
Television and Radio
Theory, Standards, and Models

Future issues of *Now Available* will be more "news-lettery" than this one is; they will continue to contain the kind of comment on and criticism of media-technology which has appeared in past issues.

Individualized Instruction

An Investigation of the Relationship Between Selected Student Entering Characteristics and Time Required to Achieve Unit Mastery, John L. Yeager and Mary Ann Kissel, Pittsburgh Univ., Pa. Learning Research and Development Center, March 1969, EDRS Price MF 25c, HC $1.20, 22p, ED 031 938.

The Design and Programming of Instruction, Robert Glaser, Pittsburgh Univ., Pa. Learning Research and Development Center, 1968, Available from Robert Glaser, Learning Research & Development Center, University of Pittsburgh, Pittsburgh, Penna. 15213 (upon request), 215p, ED 031 939.

The concept of programed instruction and automation is different from, and is more important than, its present application. Emphasis must shift from instructional media to the educational problems involved. Individualization of instruction will contribute significantly to the reshaping of educational environment. Programed materials should be considered as devices around which system redesign can take place, not merely plugged into an existing school operation.

Use of Student Performance Data for Improvement of Individualized Instructional Materials, Harold F. Rahmlow, American Institutes for Research, Palo Alto, Calif.; Westinghouse Learning Corp., New York, N.Y., Proceedings of a Symposium, American Psychological Assn., Washington, D.C., Sept. 1, 1969, EDRS Price MF 25c, HC $1.45, 27p, ED 032 792.

A Model for Non-Gradedness: The Reading Program for Individually Prescribed Instruction, Isabel L. Beck and John O. Bolvin, Pittsburgh Univ., Pa. Learning Research and Development Center, *Elementary English*, 46, February 1969, 130-135, EDRS Price MF 25c, HC 50c, 8p, ED 033 832.

The Development, Implementation, and Evaluation of a Computer-Assisted Branched Test for a Program of Individually Prescribed Instruction, Richard L. Ferguson, Pittsburgh Univ., Pa. School of Education, 1969, Thesis available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order Number 70-4530, MF $3.00, HC $7.00, 141p, ED 034 406

An Individualized Reading Program, Nancy B. Davis, Self Instructional Reading Service, Bloomington, Ind., 1968, EDRS Price MF 25c, HC 65c, 11p, ED 034 667.

The operating procedures of a university reading and study skills center for completely individualized reading instruction are described.

Systems Approach

Integration of the Systems Approach and Electronic Technology in Learning and Teaching Music. Report on Federal Project No. 1309, Alice M. Knuth, Frederick Burk Foundation for Education, San Francisco, Calif., 1969, EDRS Price MF 50c, HC $3.35, 65p, ED 031 783.

A research project was conducted to test (1) a music learning system with behavioral objectives, instructional specifications, and data analysis; and (2) an electronic keyboard instrument, designed for music instruction in a group setting, with individual learner feedback and instruction. Project results included entrance into the school's instrumental music program by the majority of children participating in the project and the initiation at San Francisco State College of a teacher training program in keyboard and music fundamentals.

CALIPERS. Planning the Systems Approach to Field Testing Educational Products, Southwest Educational Development Lab., Austin, Tex., August 1969, Available from George M. Higginson, Southwest Educational Development Laboratory, 800 Brazos, Austin, Texas 78701 (upon request), 156p, ED 031 954.

A General Information System for Learning, Vladimir Slamecka, Georgia Inst. of Tech., Atlanta. School of Information Sciences, 1969, EDRS Price MF 25c, HC $1.25, 23p, ED 033 045.

This paper is concerned with the application of information engineering approaches to the design of large general purpose educational systems.

(More Systems Approach)

A Study to Extend the Development and Testing of a Systems Model of the Classroom. Final Report, Robbin R. Hough, Michigan State Univ., Rochester. Oakland Univ., March 1968, EDRS Price MF 50c, HC $3.60, 70p, ED 033 452.

New Look at Education Systems Analysis in Our Schools and Colleges, John Pfeiffer, 1968, Available from Odyssey Press, North Road, Poughkeepsie, New York 12601 ($1.00), 162p, ED 033 590.

"Systems Theory of Therapeutic and Rehabilitative Learning with Television," Karl U. Smith; Thomas J. Smith, University of Wisconsin, Behavioral Cybernetics Laboratory, *Journal of Nervous and Mental Disease*, 148(4), 1969, 386-429.

Film Film Film Film

Original Film Sources and Titles with Subsequent Remakes. Second Edition, James L. Limbacher, Comp., Dearborn Public Library, Mich. Audio-Visual Div., Available from Dearborn Public Library, Audio-Visual Div., 4500 Maple Street, Dearborn, Mich. 48126, 1967, 51p, ED 029 513.

This compendium provides an alphabetical, dated list of film titles in their first known version, with subsequent remakes. It gives the source of each film (as play, book, opera, legend, etc.); and for each film, the name of the releasing company.

An Analysis of the Effectiveness of the Biological Sciences Curriculum Study Single Topic Films in Teaching Hypotheses Construction to High School Biology Students, Ronald Keith Gibbs, Indiana Univ., Bloomington, 1967, Available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 67-16399, Microfilm $3.00, Xerography $6.40), 133p, ED 029 784.

An Evaluative Investigation of Silent Loop Films in the Teaching of Agatomy, Final Report, John R. Welser, Purdue Univ., Lafayette, Ind., April 1969, EDRS Price MF 50c, HC $3.50, 68p, ED 029 796.

Films in Driver Education; How Educational Films Are Used in Michigan to Accomplish Objectives of High School Driver Education Courses, I. R. Merrill, Michigan State Univ., East Lansing. Audio-Visual Center; Michigan State Univ., East Lansing. Highway Traffic Safety Center, 1960, EDRS Price MF 25c, HC $2.40, 46p, ED 030 299.

The Relative Effectiveness of Massed Versus Spaced Film Presentation. Rapid Mass Learning. Technical Report, Philip Ash, Pennsylvania State Univ., University Park. Coll. of Education, June 30, 1949, EDRS Price MF 50c, HC $4.35, 85p, ED 030 303.

The conclusion drawn is that military training films, presently constituting a twenty-minute aid to lecturers, may be lengthened to an hour and become a more central form of instruction.

Effects of Learner Representation in Film-Mediated Perceptual-Motor Learning, Rapid Mass Learning. Technical Report, Sol M. Roshal, Pennsylvania State Univ., University Park. Coll. of Education, December 15, 1949, EDRS Price MF 50c, HC $2.30, 44p, ED 030 304.

The more realistic presentations–motion pictures from the learner's perspective–were more effective. Excluding the learner's hands was superior to including them in static presentations. Results from participating during the learning by practicing were not conclusive.

Instructional Film Research Program; Period 1 November to 31 December, 1948. Progress Report Number 9, Pennsylvania State Univ., University Park. Coll. of Education, 1948, EDRS Price MF 25c, HC $1.75, 33p, ED 030 305.

Opening with a general statement, the report covers the following areas: developments and changes in organization; status and progress of projects; number, title, status, and progress of research projects; liaison; general fiscal statement; and problems confronting the program.

The Image of the Artist in Fictional Cinema, Vincent Lanier, Oregon Univ., Eugene, December 1968, EDRS Price MF 25c, HC $2.65, 51p, ED 030 311.

Findings indicated no substantial variations in the image from one film to another. It was concluded that a verbal profile can be formulated that describes the artist's image–an image which does not differ much from the expectations of most people in art education.

The American Film Institute's Guide to College Film Courses 1969-70, American Film Inst., Washington, D.C., 1969, Available from American Film Institute, 1815 H. Street, N.W., Washington, D.C. 20006 ($1.00), 50p, ED 030 319.

The young person who wishes to attend a school with a film program and the educator who wants to find out where and how film is being taught are offered valuable information by this guide. It reveals that 219 higher institutions of learning now have courses in film, and that 5,300 students are preparing for a career in film production, scholarship, or teaching.

Documents Processed And/Or Cited By the Clearinghouse

Most documents listed here can be ordered, in microfiche or hardcopy form, from the ERIC Document Reproduction Service. If a document is not available from EDRS, information is given on where it can be obtained, or at least where it was published.

Though enough information is provided here to allow ERIC documents to be ordered, the appropriate issues of *Research in Education* contain detailed resumes, and you may wish to check those first.

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MF 25c, HC 55c, 9p, ED 030 62[illegible]

This 66-item bibliography on microteaching and the technical skills of teaching includes published and mimeographed materials, doctoral dissertations, and three films developed at the Stanford School of Education and Center for Research and Development in Teaching from 1963 through May 1969.

A Study of the Use and Feasibility of Video-Tape Techniques in the Preparation of Secondary School English Teachers. Interim Report, Carl Eisemann, Illinois State-Wide Curriculum Study Center in the Preparation of Secondary English Teachers (ISCPET), Urbana, April 1969, EDRS Price MF 25c, HC 60c, 10p, ED 030 638.

Microteaching, Dwight Allen and Kevin Ryan, May 1969, Available from Addison-Wesley Publishing Company, Inc., Reading, Massachusetts 01867 ($4.95), 151p, ED 030 647.

This book on a rather widely known but less widely applied technique for teacher education is intended both to inform those people who are unfamiliar with microteaching and to caution those who see it as a final answer to teacher training.

Evaluation of the Contributions of Video Tape Recordings to T-Group Processes, Wellborn R. Hudson, III, South Dakota Univ., Vermillion, 1968, EDRS Price MF 25c, HC $1.00, 18p, ED 030 918.

A Study of Change in Selected Teacher Education Interns' Behavior Using Videotape Recordings. Final Report, Robert E. Roush, Houston Univ., Tex., January 1969, EDRS Price MF 50c, HC $4.15, 81p, ED 031 095.

Effects of Videotape Feedback and Microteaching as Developed in the Field Test of Minicourse I with Student Teachers, Allen C. Friebel and W. Warren Kallenbach, Far West Lab. for Educational Research and Development, Berkeley, Calif., paper presented at the California Educational Research Association meeting, Los Angeles, California, March 15, 1969, EDRS Price MF 25c, HC 60c, 10p, ED 031 429.

The microteaching group made significant gains in the desired behaviors on five of the 11 scores as compared to four significant gains for the other group. It was concluded that the minicourse does change behavior of student teachers in their methods of developing questions and conducting discussion, but that the value of the microteaching and videotape feedback does not appear to be sufficient to be needed when the participant is a student teacher.

"A Workshop in the Analysis of Teaching; Interaction Analysis, Nonverbal Communication, Microteaching, Simulation," Jack R. Frymier, Ed., Ohio State Univ., Columbus. School of Education, *Theory into Practice*, 7, 5, December 1968, 51p, EDRS Price MF 25c, HC $2.65, ED 031 435.

The Relationship Between Personality and Teaching Behavior Before and After Inservice Microteaching Training, Meredith D. Gall and others, Far West Lab. for Educational Research and Development, Berkeley, Calif., March 1969, EDRS Price MF 25c, HC 70c, 12p, ED 031 448.

An Investigation of the Effect of Videotape and Micro-Teaching Technique on "Openness" in Students Enrolled in an Elementary Language Arts Methods Course, Bennie George Barron, 1967, Dissertation from University of Southern Mississippi, available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48103 (Order No. 68-2926, Microfiche $3.00, HC $7.20), 151p, ED 031 486.

The Range of Teaching Skills That Can Be Changed by the Minicourse Model, Philip Langer, Far West Lab. for Educational Research and Development, Berkeley, Calif., 1969, a paper presented as part of a symposium at the annual meeting of the American Psychological Association, Washington, D.C., EDRS Price MF 25c, HC $1.60, 30p, ED 032 293.

Student's Guide to Microteaching, Patrick Babin, Ottawa Univ. (Ontario), Center of Cybernetic Studies, 1969, EDRS Price MF 75c, HC Not Available from EDRS, 155p, ED 033 918.

This manual contains a description of microteaching and the format to be used at the Ottawa Microteaching Clinic.

A Demonstration of the Effect of an Adaptation of Microteaching on the Instructional Behavior of Rural School Teachers. Final Report, John E. Codwell, Southern Association of Colleges and Schools, Atlanta, Ga., October 1969, EDRS Price MF 50c, HC $4.00, 78p, ED 034 620.

Microteaching and the Technical Skills Approach to Teacher Training. Technical Report No. 8, David C. Berliner, Stanford Univ., Calif. Stanford Center for Research and Development in Teaching, October 1969, EDRS Price MF 50c, HC $3.20, 62p, ED 034 707.

This paper reviews the history and current state of research and development on microteaching and technical skills training, particularly as these are related to the Stanford University program.

Other Visual Materials

An Experimental Study of the Use of Visual Illustrations Used to Complement Oral Instruction on Television, Francis M. Dwyer, Jr., Pennsylvania State Univ., University Park. Div. of Instructional Services, June 1968, EDRS Price MF 25c, HC 75c, 13p, ED 029 503.

The results of the tests indicated that visual aids are effective when learning objectives are similar to those measured by a drawing test, but that they are unnecessary and even distracting when the learning objectives are similar to those measured by terminology, identification, comprehension, and total criterion tests.

The Effect of Varying the Amount of Realistic Detail in Visual Illustrations Designed to Complement Programed Instruction, Francis M. Dwyer, Jr., Pennsylvania State Univ., University Park. Div. of Instructional Services, June 1968, EDRS Price MF 25c, HC $1.20, 22p, ED 029 506.

A study was undertaken to test the assumption that students will interact with illustrations in textbooks, workbooks, and programed units, and that this interaction will facilitate learning. The visually-aided programed material was not found to be significantly superior to the control group material consisting solely of verbal symbols.

Texas Transparency Development Project Master Book for Earth Science, Calvin S. Story, Texas Education Agency, Austin, 1965, Available on loan from the ERIC Center for Science Education, 1460 West Lane Avenue, Columbus, Ohio 43221, 115p, ED 029 786.

A Comparison of Verbal Statement, Symbolic Notation and Figural Representation of Grammar Concepts. Technical Report No. 64, Wayne C. Fredrick and others, Wisconsin Univ., Madison. Research and Development Center for Cognitive Learning, October 1968, EDRS Price MF 25c, HC $1.30, 24p, ED 029 892.

The experiment seemed to show that teaching verbal concepts is facilitated by appropriate symbols and diagrams, provided students understand these nonverbal materials.

The Development of a Retrieval System for 35mm Slides Utilized in Art and Humanities Instruction; Final Report, Robert M. Diamond, State Univ. of New York, Fredonia. Coll. at Fredonia, March 1969, EDRS Price MF 50c, HC $4.70, 92p, ED 031 925.

A Study of the Advantages and Disadvantages of Using Simplified Visual Presentations in Instructional Materials, Robert M. W. Travers, June 1969, EDRS Price MF 50c, HC $3.60, 70p, ED 031 951.

"Lectures in the Medical Institute," E. L. Raff, Medical Institute, Kazan. U.S.S.R., *Vestnik, Bysshei Shkoly*, 1968, 26(11), 29-31.

The use of visual aids in conjunction with lectures is discussed.

"The Effect of Visual Stimuli on Varied Learning Objectives," Francis M. Dwyer, *Perceptual and Motor Skills*, 27, 3, pt. 2, 1968, 1067-70.

Audio Recording Audio Recording

"Using the Cartridge Tape Recorder to Grade Themes," Frank F. Hubbell, 1968, EDRS Price MF 25c; also available in *Journal of English Teaching Techniques*, 1, 4, Winter 1968, 1-4, ED 030 652.

Each student in a two-term composition course purchased one tape cartridge which he submitted with each theme. While correcting the theme, the instructor recorded comments on the student's tape. The student could then listen to criticism of his paper as frequently as he wished by using the tape recorders in the library.

The Influence of Tape-Recorded Listening Lessons and "Listening-Motivation" Bulletins upon the Listening Ability of High School Students, John Stephens Bowdidge, Ph.D. Dissertation, University of Missouri at Kansas City, 1967, Available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48103 (Order No. 68-3569, Microfilm $4.30, HC $15.30), 336p, ED 031 487.

An Analysis of Certain Elements of an Audio-Tape Approach to Instruction, Ronald Ernest Bell, Doctoral dissertation available from University Microfilms, 300 North Zeeb Rd., Ann Arbor, Michigan 48106, 1969, 88p, ED 032 061.

The results of the investigation indicated: a negative relationship existed between the length of tapes and their respective student evaluation; the need for autonomy was positively related to performance on examinations based on the tapes and student evaluation of the tapes; there was no relationship between sex and performance on examinations based on the tests; and, attitude toward the tapes followed an "s"-curve with a low period occurring near the middle of the quarter.

An Experimental Study of the Effectiveness and Validity of an Automated Rhythm Training Program. Final Report, Walter R. Ihrke, Connecticut Univ., Storrs, March 1969, EDRS Price MF 75c, HC $7.60, 150p, ED 032 790.

The Audio-Tutorial Approach to Learning Through Independent Study and Integrated Experiences, S. N. Postlethwait and others, 1969, Available from Burgess Publishing Company, 426 South Sixth Street, Minneapolis, Minnesota 55415, 149p, ED 033 857.

The rationale of the integrated experience approach to teaching botany at Purdue University is given and the history of the audio-tutorial course at Purdue and its present organization are described.

The Concept of Audio-Tutorial Teaching, D. D. Husband and S. N. Postlethwait, Purdue Univ., Lafayette, Ind. Dept. of Biological Sciences, 1969, Available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48106, 44p, ED 034 430.

Audio-tutorial teaching employs an audio tape as a vehicle for guiding the student through a series of learning experiences.

"Comparisons of Training Techniques for Complex Sound Identification," D. W. Corcoran; J. C. Webster; M. M. Woodhead, Applied Psychology Research Unit, Cambridge, England, *Journal of the Acoustical Society of America*, 44(1), 1968, 157-167.

Centers Centers Centers

New Building on Campus. Six Designs for a College Communications Center, Educational Facilities Labs., Inc., New York, N.Y., 1963, EDRS Price MF 50c, HC $3.35, 65p, ED 031 033.

"Needed: New Learning Centers for Old Libraries in Minnesota's Junior Colleges," Jan Fusaro, *Audiovisual Journal*, 3, 1, September 1968, 4p.

This article presents several suggestions for changing traditional libraries into more up-to-date learning resources centers. It describes criteria established by The American Library Association and by the Division of Audiovisual Instruction of the National Education Association and points out the need for greater cooperation between the two organizations in developing a workable set of standards for both materials and services.

(More Centers)

"The Library-College Concept: Toward a 21st Century Learning Center Today," Jan Fusaro, *Audiovisual Journal*, 3, 3, January 1969, 3p.

A "Library-College" is defined as a college that has become completely library-centered. In the modern library, all communications media–photographs, maps, films, music, paintings–are considered an extension of the book. In 1968, of 1193 colleges surveyed, 10% were implementing the library-college concept and 37% were planning to do so.

"Additional Thoughts About the Library-College: Toward a College Without Walls," Jan Fusaro, *Audiovisual Journal*, 3, 5, May 1969, 3p.

The basic component of the "library-college-learning method is the idea of independent study and individualized learning.

Plan for Progress in the Media Center, Iowa State Dept. of Public Instruction, Des Moines, 1969, EDRS Price MF 25c, HC $1.75, also available from Department of Public Instruction, Publications Division, Grimes State Office Building, Des Moines, Iowa 50319 (40c), 33p, ED 033 588.

The outpouring of new instructional materials and techniques has resulted in a demand for instructional materials centers at the elementary school level. This handbook has been published to assist in planning and developing such a facility.

Instructional Materials Centers; Selected Readings, Neville P. Pearson and Lucius Butler, 1969, Available from Burgess Publishing Company, 426 South Sixth Street, Minneapolis, Minn. 55415 ($6.00), 345p, ED 033 597.

Computers Computers

Artificial Intelligence: Themes in the Second Decade. Memo Number 67, Edward A. Feigenbaum, Stanford Univ., Calif. Artificial Intelligence Project, August 15, 1968, Available from Clearinghouse for Federal Scientific & Technical Information, Springfield, Va. 22151 (AD-680 487, MF 65c, HC $3.00), 41p, ED 029 509.

The text of an invited address on artificial intelligence research over the 1963-1968 period is presented. A survey of recent studies on the computer simulation of intellective processes emphasizes developments in heuristic programing, problem-solving and closely related learning models.

Computer-Based Instruction in Statistical Inference; Final Report. Technical Memorandum (TM Series), J. Rosenbaum and others, System Development Corp., Santa Monica, Calif. Research and Development Div., October 30, 1967, EDRS Price MF $1.00, HC $10.15, 201p, ED 029 511.

A Computer Assisted Instruction: Annotated Bibliography, O. D. Barnes, Available from Phi Delta Kappa, Inc., 8th and Union, Bloomington, Ind. 47401, September 1968, 21p, ED 029 512.

The Use of Computers in High Schools. Technical Report Number Eight, Joe E. Crick and Lawrence M. Stolurow, Harvard Univ., Cambridge, Mass. Computation Lab., Available from Clearinghouse for Federal Scientific & Technical Information, Springfield, Va. 22151 (AD-678 741, MF 65c, HC $3.00), August 14, 1968, 172p, ED 029 515.

This paper reports on one high school's experience with a project to teach students how to program and solve problems in mathematics using a computer.

Introductory Computer-Based Mechanics; A One Week Sample Course, Alfred M. Bork and others, November 1968, EDRS Price MF 50c, HC $4.45, 87p, ED 029 516.

Very little material exists for utilizing the computer in the physics classroom, and even that little is not widely known. It was hoped that this monograph would provide some stimulus both to innovation and to discussion of the role of the computer in physics education.

Data Processing in Education: State and Regional Centers. Final Report, Nick Zarkos and Monte Kloberdanz, Iowa Univ., Iowa City, Iowa Educational Information Center, January 1969, EDRS

Commentary Variations: Level of Verbalization, Personal Reference, and Phase Relations in Instructional Films on Perceptual -Motor Tasks. Technical Report, John V. Zuckerman, Pennsylvania State Univ., University Park. Coll. of Education, December 15, 1949, EDRS Price MF 50c, HC $3.55, 69p, ED 031 084.

Film News, 26, 3, June 1969, 38p, ED 031 100.

Through four articles and several columns devoted to listing and often reviewing new and/or award winning films and filmstrips, this issue serves as a guide to some of the best classroom film materials currently available.

"Using Films in Teaching English Composition," Adele H. Stern, *English Journal,* 57, 5, May 1968, 646-49, EDRS Price MF 25c, HC 35c, 5p, ED 031 477.

Single Concept Film Clip Project; Parts One and Two, Elwood E. Miller, Director, Michigan State Univ., East Lansing, December 1, 1967, EDRS Price MF $1.25, HC $14.85, 295p, ED 031 919.

The first part of the project included a national conference on cartridged films in February 1967, and is fully documented in this report. The second part, based on the findings of the first, was concerned with an intensive investigation of the single concept film idea. The problem was to develop practicable systems for the selection, storage, maintenance, retrieval, distribution, and projection of film clips (single-concept, closed-loop films).

The Film Analyzer; Rapid Mass Learning. Technical Report, C. R. Carpenter and others, Pennsylvania State Univ., University Park. Coll. of Education, October 1950, EDRS Price MF 25c, HC $1.10, 20p, ED 031 920.

The need for suitable equipment for research and for evaluation of instructional films, led to the planning, designing, and constructing of a new recording system, the Film Analyzer. The Film Analyzer will record and time continuously a range of reactions and responses of individuals (in groups up to a maximum of 40 people) to various kinds of instructional and informational programs.

The Effects of Inserted Questions and Statements on Film Learning; Rapid Mass Learning. Technical Report, Albert K. Kurtz and others, Pennsylvania State Univ., University Park. Coll. of Education, September 1950, EDRS Price MF 25c, HC $1.00, 18p, ED 031 921.

Effects on Training of Experimental Film Variables, Study I: Verbalization, Rate of Development, Nomenclature, Errors, "How-It-Works," Repetition; Rapid Mass Learning. Technical Report, Nathan Jaspen, Pennsylvania State Univ., University Park, Coll. of Education, October 1950, EDRS Price MF 25c, HC $1.45, 27p, ED 031 922.

Instructional Film Research Program; Period: 1 March to 30 June 1949. Progress Report Number 11-12, Pennsylvania State Univ., University Park. Coll. of Education, 1949, EDRS Price MF 25c, HC $2.95, 57p, ED 031 923.

Effectively there are two halves to the paper. The first half is classified into five parts, in terms of learning principles and the second part, the appendix, comprises a summary of the experimental projects of the Instructional Film Research Program in relation to the classifications of five learning principles.

Instructional Film Research Program; Period: 1 July to 30 November 1949. Progress Report Number 13, Pennsylvania State Univ., University Park. Coll. of Education, 1949, EDRS Price MF 50c, HC $3.00, 58p, ED 031 924.

This paper furnishes preliminary reports on four film research projects to determine: the relationship of length and fact frequency to the effectiveness of instructional motion pictures, the contributions of film introductions and film summaries to learning from instructional films, the effects of repetitive film presentations on learning, and the relative contributions to learning of video and audio elements in films.

Programming the Instructional Film; Monograph One, Vernon S. Gerlach and others, Arizona State Univ., Tempe. Classroom Learning Lab., October 1966, EDRS Price MF 25c, HC $2.15, 41p, ED 031 930.

Stating Objectives. Monograph Number 11, Vernon S. Gerlach and others, Arizona State Univ., Tempe. Classroom Learning Lab., May 1968, EDRS Price MF 25c, HC $2.40, 46p, ED 031 931.

A self-instructional film should be learner-oriented rather than content-oriented. Its objectives should be stated in terms of observable, specific behavior. Objectives should be to identify, name, order, describe, and construct. Then there is the problem of selecting a task which the film must perform.

The Efficacy of Sound-Motion Pictures as Instructional Media. Final Report. Revised Edition, Ruth Beckey Irwin and Aleki Nickles, Ohio State Univ., Columbus. Research Foundation, March 1969, Available from Ohio State University Research Foundation, Columbus, Ohio 43212 24p, ED 031 935.

Four 5-minute films on articulation were produced and evaluated for a study on the effectiveness of film in providing preservice clinical experience for speech clinicians. Results of this study appear to support the use of films in clinical speech pathology.

The Development of a Semiotic of Film, Sol Worth, 1968, EDRS Price MF 50c, HC $3.20, 62p, ED 031 945.

What's Happening: Willowbrook Cinema Study Project, Ralph J. Amelio, 1969, Available from Geo. A. Pflaum, Publisher, 38 West Fifth Street, Dayton, Ohio 45402 ($3.00), 84p, ED 032 313.

A two-semester elective high school course in the study, evaluation, and appreciation of the cinema as an art form is outlined in this publication.

Film Study in the Elementary School: Grades Kindergarten through Eight. A Curriculum Report to the American Film Institute, David A. Sohn and Melinda Stucker, Evanston School District 65, Ill., 1969, EDRS Price MF $1.25, HC $14.60, 290p, ED 032 316.

Instructional Film Production, Utilization and Research in Great Britain, Canada and Australia (Rapid Mass Learning). Technical Report, Leslie P. Greenhill and John Tyo, Pennsylvania State Univ., University Park. Coll. of Education, May 1, 1949, EDRS Price MF 25c, HC $1.65, 31p, ED 032 754.

Comparison of the Audio and Video Elements of Instructional Films; (Rapid Mass Learning), Technical Report, H. E. Nelson and others, Pennsylvania State Univ., University Park. Coll. of Education, November 1950, EDRS Price MF 25c, HC $1.00, 18p, ED 032 756.

Criteria for the Production and Selection of Film for the Classroom: A Preliminary Study, Nathan Maccoby and others, Stanford Univ., Calif. Inst. for Communication Research, August 1969, EDRS Price MF 25c, HC $2.10, 40p, ED 032 770.

Structure and Function in Educational Cinema. Final Report, Calvin Pryluck, Purdue Univ., Lafayette, Ind., April 15, 1969, EDRS Price MF 50c, HC $4.05, 79p, ED 032 772.

Teaching with films has largely been limited to the attainment of the simpler educational objectives such as factual and perceptual motor skills learning. Here is an attempt to define the characteristics of filmic communication in order that it may be applied to more complex educational aims.

A Systems Approach for Automating the Cataloging and Distribution of Educational Motion Pictures. Final Report, Charles Joseph Vento, University of Southern California, Los Angeles, May 1969, EDRS Price MF $1.00, HC available from University Microfilms, Ann Arbor, Michigan 48106 (MF $3.25, HC $16.90), 260p, ED 032 773.

"Focus on Young Film Makers: Student Film Making—Types and Techniques," Henry E. Putsch, *Educators Guide to Media & Methods,* 5, 3, November 1968, 50-1, EDRS Price MF 25c, HC 25c, 3p, ED 033 115.

Film Catalog; University of Southern California 1969-70, University of Southern California, Los Angeles. National Information Center for Educational Media, 1969, Available from University of Southern California, Division of Cinema, Film Distribution Section, University Park, Los Angeles, California 90007 ($1.00), 226p, ED 033 591.

(More Film)

The National Information Center for Educational Media (NICEM) at the University of Southern California, using a computer to search a data bank of over 70,000 titles of non-book materials, has compiled a motion picture film catalog.

U. S. Government Films, 1969. A Catalog of Motion Pictures and Filmstrips for Sale by the National Audiovisual Center, National Audiovisual Center, Washington, D.C., 1969, Available from National Audiovisual Center (GSA), Washington, D.C. 20409, 165p, ED 033 612.

Film Guide for Discussion Leaders for Use with The Kindergarten Child. Parts One and Two. The Lexington Kindergarten Teacher-Training Film Project, Lexington Public Schools, Mass., 1969. EDRS Price MF 25c, HC $1.65, 31p, ED 033 889.

This study guide for use with a 16 mm. film series on the nature of kindergarten children is designed for use in "early childhood" and teacher preparation programs.

35-Flicks: Review of 35 Short Films, Arizona State Univ., Tempe. EPDA Inst. in Media and the Teaching of English, 1969, EDRS Price MF 50c, HC $3.30, 64p, ED 033 929.

Comments about these short films, written by participants of the EPDA Institute in Media and the Teaching of English, include an abstract of the film's main points, a plot synopsis, appropriate age level of the audience, strengths and weaknesses of the film, possible unit themes or topics to be developed around the film, a list of books and additional films that have parallel themes, and discussion questions.

"The Oedipus Films: A Review," Howard Clarke, National Council of Teachers of English, Champaign, Ill., *The English Journal*, 54, 7, October 1965, 592-600, EDRS Price MF 25c, HC 60c, 612, 10p, ED 033 974.

A critical review of Bernard Knox's literary analysis of Sophocles' "Oedipus the King" in a four-lesson film series is offered largely as a "warning" to high school teachers. Central to the criticism is the author's belief that Professor Knox has imposed a reductive and marginal interpretation on the play which tends to obscure rather than enlarge the student's understanding.

Some Aspects of Learning from Films; Incidental Report Number Two, Charles F. Hoban, Jr., Pennsylvania State Univ., University Park, June 21, 1949, EDRS Price MF 25c, HC $1.35, 25p, ED 034 427.

Motion pictures are not simply pictures that move. Instead, they involve a range of symbols, each of which has a somewhat unique function in the communication of meaning.

Annotated Bibliography of Materials on the Mexican-American, E. G. Navarro, Texas Univ., Austin. Graduate School of Social Work, August 1969, EDRS Price MF 50c, HC $3.20, 62p, ED 034 633.

The primary purpose of the document is to locate, critically examine, and annotate available literature and films in the various fields of social science and related disciplines which reflect the Mexican American experience.

Discussion Guide for Film Clip Series—"The Team Approach in Education: Twenty Questions on Film," Garda W. Bowman and others, Bank Street Coll. of Eduation, New York, N.Y., June 1969, EDRS Price MF 25c, HC $1.10, 20p, ED 034 716.

"The Opinion of Teachers in a Technical Institution of Higher Learning," B. Kraav, *Vestnik, Vysshei Shkoly*, 26(11), 1968, 31-34.

The use of educational films in physics is discussed.

The Effects on Learning from Motion Picture Film of Selective Changes in Sound Track Loudness Level, Francis Xavier Moakley, Indiana University, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 68-17, 283) Microfilm $3, HC $6.40, 132p.

"Violence in the Movies," Richard Schlickel, *Review of Existential Psychology and Psychiatry*, 8, 3, 1968, 169-178.

There are now new ERIC Clearinghouses on Social Science (at the University of Colorado), and Tests, Measurements, and Evaluation (at Princeton, New Jersey).

Media Instruction

Lighting Fundamentals. Monograph Number 13, Craig N. Locatis and Vernon S. Gerlach, Arizona State Univ., Tempe. Dept. of Educational Psychology, April 1968, EDRS Price MF 25c, HC $1.55, 29p, ED 030 324.

Using an accompanying, specified film that consists of 10-second pictures separated by blanks, the learner can, with the 203-step, self-correcting questions and answers provided in this program, come to understand the fundamentals of lighting in photography.

A Course of Study and Bibliography for Instruction in Educational Media Research and Theory. Final Report, William H. Allen, March 1969, EDRS Price MF 75c, HC $8.60, 170p, ED 031 950.

Entering Audiovisual Competencies, Areas of Graduate Study in Audiovisual Education, and Placement Expectations of Master's Degree Candidates in Audiovisual Education. A Summary Report on the Professional Audiovisual Education Study (PAVE), Robert L. Milkman, New York State Education Dept., Albany. Div. of Higher Education, October 1969, EDRS Price MF 25c, HC $1.25, 23p, ED 033 601.

Study Packet in Instructional Technology (SUNT), A School Research Newsletter, Kjell Harnqvist, Stockholm, September 1969, EDRS Price MF 25c, HC 30c, 4p, ED 033 603.

The University of Gothenburg Institute of Education has undertaken the production of a concentrated course in instructional technology in order to relieve the acute shortage of such technologists in Sweden.

Language Laboratories

Course of Study; Altus Linguistic Laboratory Altus Independent School District 18, Altus, Oklahoma, 1968, Oklahoma State Dept. of Education, Oklahoma City, 1968, EDRS Price MF 75c, HC $7.75, 153p, ED 030 511.

By the third week of school the program was divided into 3 classroom components: an audio-visual room, and electronics laboratory, and a conference room. Each child had an opportunity to be in each of the 3 classes each week. Approximately 100 records, films, and tapes were utilized in conjunction with the program. The course of study includes a schedule of activities for 36 separate weekly units.

"A Random-Access Multiple-Program System for the U of M Language Laboratory," David L. Mills, *The Foreign Language Courier*, 42, June 1969, 4-15, EDRS Price MF 25c, HC 70c, ED 031 122.

The operational characteristics of a modern equipment facility (random-access multiple-program system) being planned and constructed for the University of Michigan language laboratory and how it compares with the system it is to replace are summarized in this article.

Microteaching Microteaching

The Effectiveness of Individually Prescribed Micro-Teaching Training Modules on an Intern's Subsequent Classroom Performance, Dorothy A. Young and David B. Young, Paper presented at the Annual Meeting of the American Educational Research Association, Los Angeles, California, February 1969, EDRS Price MF 25c, HC $1.25, 23p, ED 030 586.

Microteaching and the Technical Skills of Teaching: A Bibliography of Research and Development at Stanford University, 1963-1969. Research and Development Memorandum No. 48, Philip C. McKnight, Comp. and David P. Baral, Comp., Stanford Univ., Calif. School of Education; Stanford Univ., Calif. Stanford Center for Research and Development in Teaching, June 1969, EDRS Price

Price MF 50c, HC $4.90, 96p, ED 029 517.

Two of the most successful regional educational data processing centers in Iowa are analyzed to provide information for future efforts to develop educational information systems.

Computers in Higher Education. Report of the President's Science Advisory Committee, President's Science Advisory Committee, Washington, D.C., February 1967, EDRS Price MF 50c, HC Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (30c), 84p, ED 029 518.

Federal Government assistance to colleges and universities is recommended in order to make up deficiencies in educational computing facilities and to support leadership and innovation at those institutions which presently have computer facilities.

Computer Routines to Read Natural Text with Complex Formats, Patricia A. Graves and others, Rand Corp., Santa Monica, Calif., August 1966, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD 637 303, MF 65c, HC $3.00), 132p, ED 029 650.

This memorandum describes a set of subroutines for the IBM 7040/44 computers for reading textual material with complex formats and coding conventions–questionnaires, library catalog cards, etc.–from any external medium into the high-speed store of the machine.

Problem-Solving on a Computer-Based Teletype, Patrick Suppes and others, Stanford Univ., Calif. Inst. for Mathematical Studies in Social Science, March 1969, EDRS Price MF 25c, HC $1.40, 26p, ED 029 795.

Reported is research related to the use of Computer-Assisted Instruction (CAI) drill-and-practice systems in the elementary schools. The investigators attempted to determine the variables related to problem difficulty by analyzing the solutions of a problem series.

An Analysis of Regional Planning Agencies in California Funded by ESEA Title III: Report to the Educational Agencies in California from a Statewide Advisory Committee. Volume I, A Study of the Regional PACE Centers. Volume II, A Study of the Regional Data Processing Centers. (2 pieces)], Little (Arthur D.), Inc., Boston, Mass.; San Jose Unified School District, Calif., 1968, EDRS Price MF $1.00, HC $13.45, 267p, ED 030 186.

A Computer-Generated, Teacher-Developed, Modular-Flexible Schedule, Gaynor Petrequin and William G. Tapfer, 1968, EDRS Price MF 25c, HC $1.30, 24p, ED 030 206.

The blending of technology with teaching has permitted the introduction of individualized instruction for the total student body at Marshall High School, Portland, Oregon. In conjunction with the School of Education at Stanford University, a computerized modular-flexible schedule was made operational and put to use in September 1963.

A Plan for Research Toward Computer-Aided Instruction with Natural English. Technical Memorandum, Robert S. Simmons and Harry F. Silberman, Tamalpais Union High School District, Larkspur, Calif., August 21, 1967, EDRS Price MF 50c, HC $4.05, 79p, ED 030 314.

A research program was planned to develop a first, experimental computer-assisted instruction system that would permit interaction with students in a subset of natural English.

Data Retrieval Systems and College Selection, Wesley W. Walton, Paper presented at the convention of the American Educational Research Association (Los Angeles, February 8, 1969), EDRS Price MF 25c, HC 35c, 5p, ED 030 408.

To get the right students and colleges together, an automated information system was considered. The system used 1931 institutions and 213 characteristics (in 12 categories: location, size, control, prerequisites, admission information, costs, financial aid, program, student body, faculty, degree majors, occupational programs), giving a total array of 460,000 information pieces and representing American higher education as of 1966.

Computer-Assisted Instruction and the Teaching of Mathematics. Proceedings of a National Conference on Computer-Assisted Instruction (The Pennsylvania State University, September 24-26, 1968), Ralph T. Heimer, Ed., National Council of Teachers of Mathematics, Inc., Washington, D.C., 1969, EDRS Price MF 75c,

(More Computers)

HC Not Available from EDRS, but from the National Council of Teachers of Mathematics, 1201 16th St., N.W., Washington, D.C. 20036 ($2.00), 153p, ED 030 592.

Spelling Drills Using a Computer-Assisted Instructional System, Jack Martell Khutson, Ph.D. Dissertation, Stanford University, 1967, Available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48103 (Order No. 68-6445, Microfilm $3.00, HC $4.20), 80p, ED 030 661.

Can A Machine Counsel? Information System for Vocational Decisions. Project Report Number 17, Allan B. Ellis and David V. Tiedeman, Harvard Univ., Cambridge, Mass. Graduate School of Education, paper presented at the CEEB-SSRC Conference on Computer-Based Instruction, Learning, Testing, and Guidance at the University of Texas, Austin, Texas, October 21-22, 1968, EDRS Price MF 25c, HC $2.15, 41p, ED 030 910.

Run Computer Run: A Critique, James W. Becker, Research for Better Schools, Inc., Philadelphia, Pa., paper prepared for the Conference on Information Technology and Secondary Education (Harvard University, May 1-2, 1968), EDRS Price MF 25c, HC $2.35, 45p, ED 031 081.

Stanford Program in Computer-Assisted Instruction for the Period October 1, 1968 to December 31, 1968. Progress Report, Stanford Univ., Calif. Inst. for Mathematical Studies in Social Science, 1968, EDRS Price MF 50c, HC $3.35, 65p, ED 031 088.

Miscellaneous or More Than One Medium

A Project for the Improvement of Music Education at Elementary, Junior High, Senior High, and College Levels through the Use of Non-Book Instructional Media. Final Report, Thomas Vasil, Comp. and Ed., Lexington Public Schools, Mass.; Massachusetts State Dept. of Education, Boston, August 1968, EDRS Price MF 75c, HC $7.35, 145p, ED 029 500.

Evaluation of the Comprehensive Compensatory Education Program Instituted under the Provisions of Title I, Elementary and Secondary Education Act of 1965, Public Law 89-10, for the 1967-68 School Year. No. 1, Part 1, California State Dept. of Education, Sacramento; Fresno City Unified School District, Calif. Office of Planning and Research Services, August 15, 1968, EDRS Price MF 50c, HC $5.35, 105p, ED 030 201.

Implications of New Technology for Counselor Education, American Personnel and Guidance Association, Washington, D.C., Association for Counselor Education and Supervision, March 1969, EDRS Price MF 50c, HC $3.05, 59p, ED 030 898.

This report is the result of a survey of innovations in counselor education programs in all geographic regions. An overview of computer information systems as they relate to guidance and counseling is presented. Various applications of video tape recording (VTR) equipment in counselor education programs and a list and description of basic VTR equipment is included.

Habilitation through Media, Glenn T. Lloyd, Ed., Tennessee Univ., Knoxville, Coll. of Education, March 1968, EDRS Price MF 50c, HC $5.70, 112p, ED 031 028.

Introductory remarks on the multiply handicapped deaf and on media precede an address by Arthur G. Norris on the use of media in the vocational education of the deaf.

New Directions for School Administration, William N. McGowan, California Association of Secondary School Administrators, Burlingame, January 1969, EDRS Price MF 75c, HC $7.95, 157p, ED 030 184.

This document, after presenting a general overview of the many changes in secondary education, focuses on a highly selected number of changes that have particular meaning for school administrators. Some of the ramifications of educational technology are discussed with emphasis on information systems, computer assisted instruction, and data processing in school management.

(More Miscellaneous)

Linking Universities by Technology: A Report Prepared for the Working Party on Inter-University Communication by the Inter-University Research Unit, H. D. Perraton and others, National Extension Coll., Cambridge (England), 1969, Available from National Extension College, Cambridge, England ($2.75), 83p, ED 034 439.

A program of inter-university communication was established in England. It explored theoretical possibilities and concluded that the time is ripe to establish a series of experimental exchanges between universities.

An Annotated Bibliography of Audiovisual Materials Related to Understanding and Teaching the Culturally Disadvantaged, Lillian Dimitroff, National Education Association, Washington, D.C. Div. of Educational Technology, 1969, Available from National Education Association, Division of Educational Technology, 1201 Sixteenth Street, N.W., Washington, D.C. 20036 (No. 381-11886 75c), 44p, ED 034 440.

Educational Communications Handbook, Catherine M. Bailey, Ed., New York State Education Dept., Albany. Div. of Educational Communications, 1968, EDRS Price MF $1.00, HC $12.60, 250p, ED 029 502.

Designed to help school superintendents and audiovisual directors, this handbook attempts to collate all information concerning staff, school facilities, educational equipment, and materials necessary to use technology in instructional programs.

A Guide to Materials Relating to Persons of Mexican Heritage in the United States. The Mexican American, A New Focus on Opportunity, Interagency Committee on Mexican American Affairs, Washington, D.C., March 1969, EDRS Price MF 75c, HC $9.50, 188p, ED 034 644.

A variety of resource materials relating to Mexican Americans is cited in this guide. Among the materials are books, reports and hearings, periodical literature, dissertations, bibliographies, and audiovisual materials.

(More Miscellaneous)

Scientific and Technical Communication, A Synopsis, National Academy of Sciences, Washington, D.C., 1969, EDRS Price MF 25c, HC $1.60, 30p, ED 034 682.

After a three-year study of scientific and technical communications, the Scientific and Technical Communication (SATCOM) Committee concluded that future communication needs will necessitate strengthening the diverse information network now being employed. To implement the committee's objectives, 55 recommendations were developed which dealt with the management, performance, and economics of the vast, interrelated communication system within the sciences and technology.

Free Teaching Materials: Classroom and Curriculum Aids for Elementary School Science, Roger J. Raimist and Rose A. Mester, Conservation and Environmental Science Center for Southern New Jersey, Brown Mills, 1969, EDRS Price MF 50c, HC $3.20, 62p, ED 034 687.

Free teaching materials suitable for elementary school science available from 168 agencies and companies are listed. Materials include booklets, teacher's source books and guides, charts and posters, and concrete materials such as mineral samples.

Wired for Sound: Teaching, Communications, and Technological Culture, Walter J. Ong, February 1960, EDRS Price MF 25c, HC 45c, 7p, ED 034 762.

Because an English teacher's work involves communication at the highest level with the past, present, and future, he must be more sensitive than other men to changes in the communicative process.

A Study in Determining the Role Performance of the Media Generalist as Perceived by Public School Administrators and Teachers, Frank P. Di Giammarino, Syracuse University, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 69-7733), Microfilm $3.00, HC $7.60, 164p.

BULLETIN
from
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ERIC at Stanford

The Clearinghouse on Educational Media and Technology

The 15th: A Different Kind of "Now Available" Service

This is a continuation of a different kind of service from ERIC at Stanford, a departmentalized "current awareness" list. In screening for materials relevant to educational media and technology, we have monitored a great many journals, as well as the documents processed by all 20 ERIC clearinghouses. In this issue of *Now Available*, documents are listed which deal with

Programed Instruction
Simulation and Gaming
Television and Radio
Miscellaneous
Individualized Instruction

In future issues, documents will be listed which deal with

Telecommunication
Theory, Standards, and Models
Systems Approach
Film
Media Instruction
Language Laboratories
Microteaching
Other Visual Materials
Audio Recording
Centers
Computers

Programed Instruction

Extending the Psychological Theory and Educational Possibilities of Programmed Language Instruction, Aaron Suss Carton, pre-publication paper presented at the Kentucky Foreign Language Conference, Lexington, Kentucky, April 26, 1965, EDRS Price MF 25c, HC 90c, 16p, ED 030 097.

The author objects to criticism of current programed language instruction (PLI) materials. In a "conventional FL (foreign language) class" of 120 class hours a year, the amount of time spent in active, immediately reinforced responding by any individual student would be less than 100 minutes. This is in contrast to the shortest PLI program (53 class hours a year), in which a student spends at least 40 percent of his time responding.

Individualized Instruction Case Studies Issued at Stanford

The 46 case studies on individualized instruction prepared under the direction of Jack V. Edling of the Oregon State System of Higher Education now can be ordered either individually or as a set.

Preparation of the case studies was supported by the Research Utilization Branch of the U.S. Office of Education, and publication design was by ERIC at Stanford staffmembers.

Published as 10-panel brochures, the case studies are available for $10 a set. Orders should be addressed to Case Studies, Institute for Communication Research, Stanford, Calif., and payment should accompany orders. Checks should be made payable to the Information Research Projects Fund.

Detailed information on the case studies is available direct from the clearinghouse. The order blank, which will be sent on request, also contains information on obtaining an administrator's manual (from the Oregon State System of Higher Education) and slide and audio tape sets (from the Department of Audiovisual Instruction in Washington, D.C.).

ERIC Master Files Available For Computerized Retrieval

The ERIC master files of citations and abstracts for more than 30,000 documents now are available, on magnetic tape, to the public.

For the past two years, the Office of Education has cooperated in making the master files available on a loan basis, so that they could be copied. The new arrangement provides certified copies of the tapes, and will be appreciated most by those who had had problems when they tried to read and copy the tapes provided under the old arrangement.

With the master files on magnetic tape, and with a computerized retrieval system, all the documents ever listed in *Research in Education (RIE)* can be screened for those relevant to a particular research activity.

The master files will be of no use, it should be stressed, without a computer retrieval system. One such batch system, QUERY, has been purchased by the ERIC system and is available for education organizations to use on Series 360 and Spectra 70 machines. More information on QUERY is available

ERIC Master Files, cont.

from Charles Hoover, Central ERIC, Office of Education, Department of HEW, Washington, D.C.

The magnetic tapes are available from Leasco Systems and Research Corp. at $80 per tape. From two to six tapes are required for the RIE report resume file, depending on what density tapes (from 1600 to 556 bits per inch) a user's computer facility can handle.

The master file of educational journal article citations also is available from Leasco on tape, as is the ERIC Thesaurus. Each of the files can be updated quarterly.

The Institute for Communication Research at Stanford now has the QUERY system operating with the complete ERIC RIE file, but is not able to finance searches for individual users. Administrators of research projects with some funds available for such services might wish to inquire, directing their questions through the clearinghouse.

A descriptive brochure, "Now Available: ERIC Master Files on Magnetic Tape," can be obtained from ERICTAPES, Leasco, 4833 Rugby Ave., Bethesda, Md. 20014.

(More Programed Instruction)

The Effects of Programed Instruction in Productive Thinking on Verbal Creativity and Problem Solving Among Elementary School Pupils. Final Report, Donald J. Treffinger and Richard E. Ripple, Cornell Univ., Ithaca, N.Y., December 1968, EDRS Price MF $1.00, HC $12.00, 238p, ED 030 156.

Developing the Instructional Specification. Monograph Number 12, Vernon S. Gerlach and others, Arizona State Univ., Tempe, Coll. of Education, May 1968, EDRS Price MF 25c, HC $2.85, 55p, ED 030 323.

Analysis of a film script that makes the learner identify and distinguish between statements of observation and statements of inference leads an instructor (or other program writer) step by step through the processes of preparing an instructional specification–a blue-print for preparing powerful self-instructional materials.

Development of Techniques to Implement the Principles of Programmed Video Instruction. Final Report, Thomas D. Prutsman and Dorothy S. Laird, Florida Atlanta Univ., Boca Raton, May 1969, EDRS Price MF 25c, HC $1.45, 27p, ED 030 329.

Innovations for Training, Howard H. McFann and others, George Washington Univ., Alexandria, Va. Human Resources Research Office, February 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151 (AD-685-498, MF 65c, $3.00), 46p, ED 030 824.

Four papers on research and innovation within the Army Training system deal with procedures for individualizing training, the Project IMPACT prototype system of computer-assisted and programed instruction, student motivation and performance, prospects for the 1970's and 1980's, and the implications of research in learning processes, individual differences, and training management.

An Outside Look at Programmed Learning in Foreign Language, Donald J. Lloyd, paper presented at the Kentucky Foreign Language Conference, Lexington, Kentucky, April 26, 1969, EDRS Price MF 25c, HC 45c, 7p, ED 030 851.

He examines programed instruction as a corporation executive would, asking whether this means of instruction can develop the skills his employee needs in a foreign country and whether it can do it autonomously (without an instructor).

Where Is Programmed Language Instruction Most Effective?, S. Baldsco, paper presented at the Kentucky Foreign Language Conference, Lexington, Kentucky, April 1969, EDRS Price Mf 25c, HC 90c, 16p, ED 030 852.

Analysis of the Results Obtained with "Basic French–A Programmed Course" Academic Year 1968-69 and Comparison with a Traditional Audio-Lingual Course, Theodore Mueller, 1969, EDRS Price MF 25c, HC 75c, 13p, ED 030 855.

Demonstration of Clinical Programming Methods and Dissemination of Results of Self-Instructional Clinical Problem-Solving Project. Final Report, Preston Lea Wilds and Virginia Zachert, Georgia Medical Coll., Augusta, January 1969, EDRS Price MF $1.00, HC $10.15, 201p, ED 031 090.

Providing Communication Experiences in Programed Foreign Language Instruction, George H. Brown, George Washington Univ., Alexandria, Va. Human Resources Research Office, November 1968, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-679 916, MF 65c, HC $3.00), 11p, ED 031 117.

BACIE Register of Programmed Instruction in the Field of Education and Training in Commerce and Industry. Volume 2, 1968, British Association for Commercial and Industrial Education, London (England), July 1968, Available from British Association for Commercial and Industrial Education, 16 Park Crescent, Regent's Park, London, England (members 30s; 45s non-members), 203p, ED 031 652.

The British Association for Commercial and Industrial Education has included in its register of annotated programed instructional materials: programs available in the United Kingdom, programs dealing with industrial and commercial training and related further education, and information as supplied by the authors or producers of programs.

An Introduction to Programming. Monograph Number 14, Robert J. Berger and others, Arizona State Univ., Tempe. Classroom Learning Lab., May 1968, EDRS Price MF 50c, HC $3.05, 59p, ED 031 932.

An undertaking designed to teach the fundamental concepts of programing makes the learner learn frame writing by means of frames.

Teaching Machines and Programmed Instruction, Harry Kay and others, Available from Penguin Books Inc., 3300 Clipper Mill Road, Baltimore, Md. 21211 ($1.45), 1968, 173p, ED 031 942.

The various devices used in programed instruction range from the simple linear programed book to branching and skip branching programs, adaptive teaching machines, and even complex computer based systems. In order to provide a background for the would-be programer, the essential principles of each of these devices is outlined and different ideas of programing are discussed. This work also discusses techniques for evaluating the effectiveness and efficiency of programed instruction, and presents some of its possible uses in the total educational process.

Project TAPS. Teaching Anatomy with Programmed Schematics. Progress Report Number 1, S. H. Desch and L. M. Stolurow, Harvard Univ., Cambridge, Mass. Computation Lab., July 1969, EDRS Price MF 25c, HC $1.20, 22p, ED 031 962.

Foreign Language Programmed Materials: 1969. ERIC Focus Reports on the Teaching of Foreign Languages, Number 7, A. Fiks, American Council on the Teaching of Foreign Languages, New York, N.Y.; Modern Language Association, New York, N.Y. ERIC Clearinghouse on the Teaching of Foreign Languages, 1969, Available from MLA/ACTFL Materials Center, 62 Fifth Ave., New York, New York 10011 (25c), 10p, ED 031 983.

This annotated bibliography of programed language instruction materials lists forty-eight programs by language: including French (17), Spanish (15), German (6), Russian (3), Latin (3), and other languages (4).

"Programmed Instruction Versus Guided Learning in Foreign Language Acquisition," American Association of Teachers of German, paper presented at the Modern Languages Section Meeting of the Indiana State Teachers Association Conference on Instruction, Indianapolis, Indiana, October 27, 1967, *Die Unterrichtspraxis,* 1, 2, Fall 1968, 1-14, ED 031 987.

A Self-Instructional Program in Standard English: Development and Evaluation, Catherine Garvey and Thelma L. Baldwin,

(More Programed Instruction)

Johns Hopkins Univ., Baltimore, Md. Center for the Study of Social Organization of Schools, September 1969, EDRS Price MF 50c, HC $3.55, 69p, ED 032 536.

A Systematic Investigation of Three Facets of Programmed Instruction: Tutorial Assistance of Study, Explanation of Incorrect Answers, and the Spacing of High-Difficulty Frames. Technical Report Number 4, John Joseph Hedl, Jr., Florida State Univ., Tallahassee, Inst. of Human Learning, 1969, EDRS Price MF 50c, HC $4.85, 95p, ED 032 785.

Shaping Faster Question Answering, Lloyd O. Brooks, American Institutes for Research, Palo Alto, Calif., June 1965, EDRS Price MF 50c, HC $3.95, 77p, ED 032 794.

A hypothesis that question answering speed and accuracy can be increased by an automated shaping procedure was presented.

"Maps for English Composition," Robert M. Rippey, *The School Review,* 75, 4, Winter 1967, 401-13, 14p, ED 033 128.

Documents Processed And/Or Cited By the Clearinghouse

Most documents listed here can be ordered, in microfiche or hardcopy form, from the ERIC Document Reproduction Service. If a document is not available from EDRS, information is given on where it can be obtained, or at least where it was published.

Though enough information is provided here to allow ERIC documents to be ordered, the appropriate issues of *Research in Education* contain detailed resumes, and you may wish to check those first.

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The purpose of the study was to learn if a set of instructions could be prepared for students of composition which would indicate in behavioral terms what kind of writing was expected of them.

English as a Second Language for the Culturally Depressed Children at Rogers School, Leflore County, Mississippi. Research Monograph, South Central Regional Education Lab. Corp., Little Rock, Ark., 1969, EDRS Price MF 25c, HC $1.10, 20p, ED 033 368.

The purpose of this study was to investigate the initial one-year effects and the second-year follow-up effects of introducing programmed English as a Second Language into the elementary curriculum.

A Guide to Evaluating Self-Instructional Programs, Paul I. Jacobs and others, 1966, Available from Holt, Rinehart and Winston, Inc., 383 Madison Ave., New York, N.Y. 10017 ($1.95), 84p, ED 033 587.

Evaluation of a Project: Independent Foreign Language Study By Selected Eighth Graders at Townsend Junior High School Using Programmed Materials, March 3 to May 23, 1969, John F. Bockman, Tucson Public Schools, Ariz., August 1969, EDRS Price MF 25c, HC $2.75, 53p, ED 033 632.

Development of an Instructional Aid for a Course in Multivariate Educational Statistics, Final Report, Vidya Bhushan, Hawaii Univ., Honolulu, Educational Research and Development Center, July 1969, EDRS Price MF $1.00, HC $12.90, 256p, ED 033 851.

Presented is a linear program for matrix algebra required in a first course in multivariate educational statistics.

A Report of the 1969 Introductory and Advanced Institutes in Programed Instruction and Instructional Systems for Teachers of the Deaf, New Mexico State Univ., Las Cruces, Southwest Regional Media Center for the Deaf, 1969, EDRS Price MF 25c, HC $2.55, 49p, ED 034 344.

Effect of Programed Instruction Response Conditions on Acquisition and Retention, Thomas J. McCrystal and T. O. Jacobs, George Washington Univ., Alexandria, Va. Human Resources Research Office, December 1966, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-646 347, MF 65c, HC $3.00), 37p, ED 034 397.

Teaching Machines and Programmed Instruction. Some Factors to Consider in Implementation. Research Memorandum, Robert G. Smith, Jr., Army Air Defense, Fort Bliss, Tex. Human Research Unit, August 1961, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-632 188, MF 65c, HC $3.00), 82p, ED 034 399.

Programmed Learning, Programmed Textbooks, Teaching Machines, A. V. Prokofiev, Ministry of Defense, Moscow (USSR), Military Publishing House, May 19, 1966, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (TT66-32047, MF 65c, HC $3.00), 138p, ED 034 429.

"Information Stress in the Process of Learning," R. S. Shaduri and E. P. Juleli, *Sak'art'velos SSR Mets'nierebat'a Akademiis Moambe,* 50(1), 1968, 43-46.

This Russian journal article reports that programed learning, versus traditional learning, has a number of important advantages in relation to informational stress (overburden).

The Effects of Programmed Instruction on Specific Response Repertories, Robert Leslie Rudolph, University of North Carolina, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 69-1671), Microfilm $3, HC $4.60, 86p.

The Effects of Response Mode and Selected Presentation Modes Upon the Amount Learned from Programed Material, Douglas Stone Bryce, Jr., University of Tennessee, dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 69-1267), Microfilm $3, HC $3.55p.

A Three-Dimensional Approach to the Teaching of Beginning Word Recognition Skills, Howard Frank Bird, University of Minnesota, dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order No. 68-17662), Microfilm $3, HC $6.40, 133p.

Teaching machines were used to determine the effectiveness

58 Hours of Programming, Judged in Great Good Spirits

By Henry C. Alter
Director, Educational Services
National Educational Television

Anyone who has "done time" in projection rooms looking at several hours of programming at one stretch will know the pitfalls of asking groups of educators, writers, and journalists to look at no less than 58 hours of TV programs in about eight days. Yet that is what the organizers of the leading German TV competition ask, and many of the jurors have come back year after year.

This is not the only unique feature of the annual "Adolf-Grimme-Prize" held in Marl, about 35 miles from Dusseldorf. The contest is not organized by the TV industry, but by the adult educators of Germany, specifically the Association of German Volkshochschulen—the more than 6,000 centers in which some 6 million West Germans pursue after-hours learning.

The idea is to foster a dialog between the intellectuals and the broadcasters, to the end that each would understand better the other's problems and, hopefully, to raise the level of programming.

The preparations for each year's competition involves a staggering amount of work. Jurors must be invited who will combine into a balanced group, willing to stay the entire time of the contest. And they must be willing to discuss at length the reasons for voting as they do, for it is a Marl tradition that the jurors arrive at their final choices in strenuous debate, rather than in anonymous, mathematical awarding of points.

The nominating process is complex and painstaking. Each of the networks nominates programs of its own choice, up to a specified length of viewing time. Individuals in and out of the adult education movement make nominations, which are evaluated by a preliminary jury meeting two to three months before the contest, and winnowed down to fit the available viewing time. No program is ever cut, and except for emergencies, all jurors see all of the entries. When the entries are firm, they are put on slips of paper and a public notary conducts a drawing of the order in which they will be screened, since the position of an entry on the schedule can affect its chances of winning.

Before the first juror arrives and picks up several pounds of schedules, program data, brochures, etc., a major technological feat is accomplished. All the 58 hours of nominated programs are put on video tape, in sequence, with carefully timed intermissions which are marked on the tape by an intermission clock, and by fanfares which signal the resumption of screenings.

All this material is projected from a bank of five interrelated mobile units parked in the courtyard of the Marl city hall. These units feed some 15 monitors placed in three different rooms of the "insel" building, and an equal number placed throughout the public rooms of the city hall itself. During the entire nine days of the 1970 contest, there was not a single malfunction in this sytem, but no one thought this surprising.

All the equipment, and some 28 technicians to service it, are provided at no cost to the contest by the broadcasting networks—impressive evidence of the value which they put on the event.

The contest's nerve center, the "insel" building, is a cheerful modern structure with several meeting rooms and a well-stocked library. For the duration of the contest, the building's staff members joyfully change their usual roles for the multiplicity of tasks demanded by the event. Just two examples: The buses, rented to transport jurors to and from the different hotels in which they are quartered, are never entrusted to their drivers alone. Two men alternate as "hosts" on each run, emphasizing the schedule for the next pickup, and answering any questions that arise.

The nine- and ten-hour days spent by the jurors require an elaborate system for their care and feeding, and that's what is provided. No less than six young ladies spend the days of the contest under the benevolent supervision of the janitor's wife, preparing a never-ending, but never-the-same, sequence of snacks which are most attractively laid out for all intermissions in the screenings, whether they be six minutes or, as happens in mid-evening, 45 minutes long. In the evening a cold supper is provided, consisting of tasty sandwich spreads and salads. With these there is hot coffee and cold beer and never less than three or four different pies or cakes, all home made.

What does all this cost, and who pays for it? As we know, the entire technical apparatus is provided by the broadcasters at their own expense. It costs the organizers nothing at all. Yet they must come up with an annual budget of 100,000 deutsche marks, for which the official exchange rate is approximately $27,000, but the more realistic comparison, based on purchasing power, is $50,000. This amount would be substantially greater if the "insel" personnel did not joyfully contribute hours and hours of their time, and if the non-stop feeding of the jurors were not, as we said, home-produced.

The principal cost is in travel expense and per diem for each juror and observer. The contest pays complete roundtrip transportation, and a per diem of 60 marks. About half of this amount represents the average cost of the hotel room, the rest goes for such meals as are not taken at the "insel" building, or at the huge nearby Hüls chemical works, which gives one or two lavish receptions for each jury.

As for the awards ceremony, the one in 1970 was a carefully written and rehearsed multi-media production, kidding all of TV, but especially the cultural "third programs." The show was taped and broadcast, in two different versions, by each of the two networks that same weekend.

(More Programed Instruction)

of 3D materials in initial word recognition, learning, and retention of kindergarten children.

"Comparison of a Programed Method of Beginning Reading Instruction the Look-And-Say Method," Eugene E. McDowell; Kinda K. Nunn; Beth A. McCutcheon, University of North Carolina, *Psychological Record*, 19(2), 1969, 319-327.

"The Traditional and the Programed in Combination," E. F. Mishina and others, *Institute of Agricultural Machine Construction*, Kerovograd, U.S.S.R., 26(11), 1968, 17-20.

A general chemistry course is described that uses traditional and programed lectures and programed texts.

"Some Long-Range Effects of Programmed Instruction in Music," Theodore H. Ashford, Northwestern University, *Journal of Research in Music Education*, 16, 4, 1968, 339-344.

Effects of Three Different Interaction Patterns on Programmed Learning Achievement, Frank G. Nelson, Washington State University, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 68-15,792), Microfilm $3, HC $7.00, 146p.

A Study of the Difference in Students' Learning Chinese and Japanese Culture Concepts Using Lecture and Intrinsically Pro-

grained Methods, Henry P. French, University of Rochester. Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 68-15,876), Microfilm $3, HC $9.25, 203p.

Simulation and Gaming

Sample of A Gaming Exercise, Michael C. Giammatteo, Northwest Regional Educational Lab., Portland, Oreg., March 22, 1969, EDRS Price MF 25c, HC 65c, 11p, ED 030 169.

This paper presents a sample game called "Teacher Preparation," underlining the tasks which the game hopes to accomplish.

Simulation Models for Education. Fourth Annual Phi Delta Kappa Symposium on Educational Research, Nicholas A. Fattu, Ed. and Stanley Elam, Ed., Phi Delta Kappa, Bloomington, Ind., 1965, Document Not Available from EDRS, 117p, ED 030 604.

Motivating Learning Through Invention of Games: A Report on an Innovative Approach to the Teaching of Basic Academic Skills to the Disadvantaged, Hy Ruchlis, Mobilization for Youth, Inc., New York, N.Y., February 1968, EDRS Price MF 25c, HC 80c, 14p, ED 030 689.

The Effects of Two Simulation Games on the Opinions and Attitudes of Selected Sixth, Seventh, and Eighth Grade Students. Report Number 42, Karen C. Cohen, Johns Hopkins Univ., Baltimore, Md. Center for the Study of Social Organization of Schools; Worcester Public Schools, Mass., May 1969, EDRS Price MF 25c, HC $1.15, 21p, ED 031 766.

Using Simulation Games in the Classroom. Report Number 44, Lindy Harry, Johns Hopkins Univ., Baltimore, Md. Center for the Study of Social Organization of Schools, June 1969, EDRS Price MF 25c, HC 85c, 15p, ED 031 767.

The Center for the Study of Social Organizations at Johns Hopkins University has developed suggestions for evaluating, preparing, introducing, playing, discussing, and modifying simulation games for classroom use.

Games and Simulations: An Approach to Meaning through Participation. Ideas in Motion, Leonard S. Demak and Leo Dworkin, Wayne County Intermediate School District, Detroit, Mich., EDRS Price MF 25c, HC $1.60, 30p, ED 031 949.

Simulation is a motivational device and must not be confused with role-playing. In simulation the individual plays himself in a situation, whereas in role-playing he performs what he interprets to be the demands of the role. Included in this report is a section entitled "Design Your Own" which tabulates the steps necessary in the design of a game.

Teaching in Valleybrook Elementary School: A Simulation Game Focusing Upon Problems of the Racially Desegregated School, Frederick P. Venditti, Tennessee Univ., Knoxville. Coll. of Education, 1968, EDRS Price MF 50c, HC $4.50, 88p, ED 032 240.

Classroom Applications of Instructional Simulation and Learning Games (June 9, 1969-July 3, 1969). Director's Report, Ronald G. Klietsch and Dorothy Dodge, Macalester College, St. Paul, Minn., 1969, EDRS Price MF 25c, HC $1.25, 23p, ED 032 263.

A summer institute was designed to provide 22 certified elementary and secondary social science teachers the opportunity to focus upon concepts and development principles in the methods of learning games and instructional simulation.

Group Versus Individual Performance and Learning in a Computer Game: An Exploratory Study, Nancy Karweit and Samuel A. Livingston, Johns Hopkins Univ., Baltimore, Md. Center for the Study of Social Organization of Schools, September 1969, EDRS Price MF 25c, HC $1.40, 26p, ED 032 789.

An Approach to More Effective Training for Executive Careers, James Orr Massey, University of Southern California, Los Angeles, 1967. Available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan, 48106 (Order No. 68-1688, Microfilm $3.00, HC $9.25), 202p, ED 033 320.

An assessment was made of the usefulness of more realistic simulation models in the academic study of business, and of resources needed to develop and use such models.

Television and Radio

Health Sciences TV Bulletin, 6, 2, April 1969, 12p, ED 030 332.

Two articles are featured in this bulletin. One describes an inquiry by the Baylor University-Methodist Hospital Regional Medical Program into the topics doctors thought could be suitably presented on videotape as part of a continuing education program for physicians. The second article is a progress report on the use of television and videotape by the Department of Psychiatry at the University of Mississippi Medical Center.

"An Educational Campaign by Radio in Dahomey. First Progress Report," Tarcissius Tevoedjre. Available in *European Broadcasting Union Review (Part B)*, n114B, March 1969, 35-7, ED 030 333.

The three radio program formats currently in use are described, and the project's future hopes and prospects are considered.

"Just Watch What I'm Saying: A Television Teaching Course for the Deaf and the Hard of Hearing," F. E. Wermer. Available in *European Broadcasting Union Review (Part B)*, n115B, May 1969, 12-15, ED 030 334.

Teleclass Study Guide for English 101 (English Composition), Donald Jordan, Chicago City College, Ill., 1969, EDRS Price MF 50c, HC $5.10, 100p, ED 030 412.

Edgewood Independent School District Instructional Television Guides–Countdown, Teacher's Guide 5; Safari, Teacher's Guide 5; Probe, Teacher's Guide 6; Abacus, Teacher's Guide 6; Mathletics, Teacher's Guide 7; Algebraically Speaking, Teacher's Guide 8; Related Math I & II, Teacher's Guides 9 & 10; Spectra, Teacher's Guide 9, Earle Bolton and June Gueringer, Edgewood Independent School District, San Antonio, Tex., 1965, EDRS Price MF $1.25, HC $15.00, 298p, ED 030 556.

A Study of the Production and Use of Videotaped Materials in the Training of In-Service and Pre-Service Teachers of English. Final Report, Stephen Judy, Illinois State-Wide Curriculum Study Center in the Preparation of Secondary English Teachers (ISCPET), Urbana, May 1969, EDRS Price MF 25c, HC 95c, 17p, ED 030 671.

"Information Retrieval by Television," C. A. Billowes. Available in *Electronics and Communications*, December 1968, 35-7, ED 030 320.

Bell Canada, the Public School and Collegiate Institute Boards of Ottawa, and the Ontario Institute for Studies in Education are collaborating on an educational television project which will provide a retrieval system that can supply any given program at any time under the control of the classroom teacher.

This is NHK, Japan Broadcasting Corp., Tokyo. Public Relations Board, 1969, EDRS Price MF 50c, HC $3.25, 63p, ED 030 328.

Nippon Hoso Kyokai (Japan Broadcasting Corporation-NHK) is the only public service broadcasting corporation in Japan. Financed almost exclusively by subscribers fees, NHK runs two television services, two radio networks, and an FM service.

Health Sciences TV Bulletin, 6, 1, January 1969, 10p, ED 030 331.

Two articles comprise the bulk of this bulletin. One discusses the use of television equipment in the teaching of psychiatry and the second offers a review of the research concerned with television in region medical programs.

The Educational Effectiveness, Acceptability, and Feasibility of the Eidophor Large-Screen Television Projector, L. P. Greenhill and others, Pennsylvania State Univ., University Park. Div. of Academic Research and Services, January 1962, EDRS Price MF 25c, HC $1.45, 27p, ED 030 306.

Film 100 Years From Now, According to Massachusetts Girls

Editor's Note: the following excerpts are from the responses of 10th, 11th and 12th-grade girls to an assignment to write about "Film 100 Years From Now." The assignment was given after the class read an article by D.W. Griffith entitled "The Movies 100 Years From Now," which originally appeared in *Collier's* in 1924.

The filmmaking class was taught by Bobbi Osler, and additional information on the project is available from her at The Concord Academy, Concord, Mass.

. . . Film will be a universally recognized art form, and will be available to everyone. For in the year 2069, people will be generally wealthy, and able to have their own film rooms with videotape machines, projectors, and editing and developing equipment . . . .

. . . There will be many kinds of theatres: the three dimensional, a circular dome theatre in which the audience sits in the center on rotating chairs and the film is shown on the walls and the ceiling and the floor (sort of like a planetarium). There will be environmental theatres, in which the whole physical and mental atmosphere of the theatre is controlled: the heat, the cold, thirst, hunger, fear, motion, smells, dampness. If a film has a desert scene, the room temperature will be raised uncomfortably and small one frame shots of a drink will be placed in the film, thus creating subconscious thirst . . . .

. . . 100 years from now, films may not even exist . . . .

. . . It seems probable that all of our schools will be taught principally by films, probably attached to a central computer to which questions can be addressed and from which information will be sent out to each individual student . . . .

. . . I think most homes will have some sort of private screen, replacing today's television. Instead of having a programmed schedule, though, the people of the future may be able to see anything they wish, as it happens; or to choose to see any previous film or event from a master file . . . .

. . . The society will be film oriented. Words will become of less value, something crude (in terms of communication) from long ago . . . .

. . . In terms of entertainment, films will play a great part. Drugs will no longer be necessary. Any visual experience can be produced by film . . . .

. . . There will be movies used for passengers in all means of transportation. Each private car will have its own cartridge movies for the passengers when they tire of the scenery. Boats, buses, trains, and airplanes, to a greater degree than at present, will have sections set aside where movies of varying lengths and interests will be continually shown . . . .

. . . I see much greater coordination with the other arts. The movie theatre as we now know it will cease to exist. Instead, films will be used to complement dance and drama, to set off music and art, and to move forward as a creative force in their own right, utilizing new dimensions of time and space . . . .

. . . And what of the events inside, in the mind? Possibly electrodes could be placed on the brain and brain waves of senses not yet even conceived of could be reproduced. Filmmaking I think will become more than just filmmaking, but the one art form in which all forms can be combined and expressed as a total experience . . . .

. . . Newspapers, movie theaters, and T.V.—they've all become obsolete due to films. I find it hard to imagine life without a screen, but 100 years ago, I'm sure people never dreamed of having theaters in every home. I had also forgotten how primitive films used to be. Less than a century ago they were still using projectors instead of live screens . . . .

. . . Kramer and I had a vigorous discussion on our way home. He insisted that film still had a long way to go and is nowhere near its zenith, but I thought that certainly film couldn't get much better than it is. Kramer is such a funny combination of radical ideas and conservative manners. For instance, he said if films can replace so many teachers in schools, isn't it conceivable that they might replace students? I think that's a little far-fetched, myself. But he certainly was interesting to talk to . . . .

Bobbi Osler

(More Television & Radio)

A Paradigm for Change: Reaction to Innovation in a Teachers' College, Allan J. C. King and R. A. Ripton, Canadian Council for Research in Education, Ottawa (Ontario) Paper presented at Canadian Conference on Educational Research, Quebec, June 1968, EDRS Price MF 25c, HC Not Available from EDRS, 17p. ED 030 397.

Two innovations were brought to a teachers' college: television was introduced, and it was proposed to merge the college with a university. This study investigated the impact of the two types of change on the social system of the teachers' college from the point of view of the staff.

ITV 1969: A Guide to Independent Television, Independent Television Authority, London (England), January 1969, EDRS Price MF $1.00, HC $12.10, 240p, ED 030 308.

Parliament created the Independent Television Authority in August 1954. The resulting Independent Television System in Great Britain is depicted in this comprehensive guide. ITV system contract policy and control, audience and programs, its publications and technical operations, its program companies, finances, and its code of advertising standards and practices are topics delineated.

Survey of Literature on Instructional Television; Advantages and Disadvantages, Attitudes of Teachers and Students, Effectiveness of Televised Instruction, John S. Corcoran, Thesis presented to The School of Journalism, University of Oregon, Spring 1969, Document Not Available from EDRS, 35p, ED 030 309.

"Educational Television," Available in *Educational Television*, 1, 6, April 1969, 34p, ED 030 310.

Television in medical education is featured in this supplement to "Educational Television."

A Study of the Feasibility of Using Television to Teach Child Psychology to the Acoustically Handicapped. Final Report, Richard R. Shurtz, Arkansas Univ., Fayetteville, 1968, EDRS Price MF 50c, HC $3.75, 73p, ED 030 312.

Feasibility of Producing Synchronized Video Tapes as Instructional Aids in the Study of Music; Final Report, George J.

Skapski, San Fernando Valley State Coll., Northridge, Calif., February 28, 1969, EDRS Price MF 50c, HC $4.45, 87p, ED 030 313.

A Survey of the Viewers of College Courses Taught Over Television, Robert M. Brown, State Univ. of New York, Albany. Instructional Resources Center, April 1967, EDRS Price MF 50c, HC $5.00, 98p, ED 030 315.

A survey was conducted, in the fall of 1966, of students' reaction to three college credit courses, Astronomy, Latin America I, and Latin America II, broadcast in major cities in the State of New York.

A Survey of the Reaction of Lawyers to the Television Series "Behind the Law." Robert M. Brown, State Univ. of New York, Albany. Instructional Resources Center, May 1967, EDRS Price MF 25c, HC $1.55, 29p, ED 030 316.

Most of the lawyers considered the presentation good to excellent as a medium of instruction, and over half of them thought that future TV series on law should deal with estates, criminal law, trial, appeal, taxes, and real estates.

The Center for Educational Television, Center for Educational Television, Inc., Manila (Philippines), 1968, EDRS Price MF 25c, HC $1.70, 32p, ED 030 318.

Three systems of broadcast are used--2500-megahertz, closed-circuit, and open broadcast. The center plans to establish an instructional television service and, later, a national media service. Other plans include extending coverage to the provinces, a telecourse library, and a tape duplication service. In order to provide the additional service, the center will buy more equipment, train more personnel and erect a new production service building.

"Lighting Techniques for the ETV Studio," Available in *American School and University*, January 1966, 58-59, ED 030 256.

Television Experience Patterns in Children and Juveniles; Illustrated by the Prize-Winning Programmes of the Prix Jeunesse 1964. Research Report. Publications of the International Central Institute for Youth and Educational Television. No. 1, Margarete Keilhacker and Gunther Vogg, International Central Inst. for Youth and Educational TV, September 1965, EDRS Price MF 25c HC $2.00, 38p, ED 030 298.

A study to test the appeal, reception and response quality in the case of programs screened at the 1st Prix Jeunesse contest in Munich by the observation of children and juveniles (age-grouped 6 to 12, 12 to 15, and 15 and over) is described in this paper.

A Preliminary Report on San Diego Area Instructional Television Authority Development, San Diego Area Instructional Television Authority, Calif., January 22, 1969, EDRS Price MF 25c, HC $1.75, 33p, ED 030 302.

"Educational Television. Special VTR Issue," Available in *Educational Television*, 1, 7, May 1969, 40p, ED 029 520.

Four articles focusing on various aspects of videotape recorders form the main body of this journal.

A Comparison of the Relative Effectiveness of Teaching Composition by Closed-Circuit Television and by Conventional Classroom Procedures, Austin Horace Patty, Oregon State University, Dissertation available from University Microfilms, A Xerox Company, 300 North Zeeb Road, Ann Arbor, Michigan 48103 (Order No. 67-5405, Microfilm $3.00, Xerography $4.00), 75p, ED 029 881.

A Study of Systemic Resistances to Utilization of ITV in Public School Systems. Volume I, Richard V. Wagner and others, American Univ., Washington, D.C. Development Education and Training Research Inst., February 1969, EDRS Price MF $1.00, HC $10.80, 214p, ED 030 011.

The objective of this study was to identify and describe problems experienced by public school systems in increasing utilization of instructional television (ITV) subsystems.

A Study of Systemic Resistances to Utilization of ITV in Public School Systems. Volume II. Case Studies, Richard V. Wagner and others, American Univ., Washington, D.C. Development Education and Training Research Inst., February 1969, EDRS Price MF $1.00, HC $11.75, 233p, ED 030 012.

The Music Programing of National Educational Television, Richard Taliaferro Dasher, Michigan Univ., Ann Arbor, 1968, Thesis available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106 (Order No. 69-2271, Microfilm $3.00, Xerography $7.00), 147p, ED 030 068.

This study surveyed musical productions acquired by National Educational Television (NET) since its inception in 1952 in order to report their nature, circumstances of their acquisition, and their relative usage. Data were obtained primarily from interviews with persons involved in educational television and from detailed examination of NET files and records.

One Week of Educational Television Number Five (May 6-12, 1968); UHF-VHF, Closed-Circuit, and ITFS (2500 MHz) Activity, Don H. Coombs, Stanford Univ., Calif. ERIC Clearinghouse on Educational Media and Technology, 1969, EDRS Price MF 75c, HC $6.50, 128p, ED 029 501.

This census of a week's educational UHF-VHF broadcasting is accompanied by a survey of ITFS (2500 MHz) and closed-circuit television programing. Compared to 1966, there was proportionately more math, less foreign language on UHF-VHF. The trend toward less local production and the trend toward more weekend broadcasting continued.

Educational Psychology by Video Tape for Inservice Teachers: A Feasibility Study. Final Report, Donald W. Johnson, Pennsylvania State Univ., University Park, December 1968, EDRS Price MF 25c, HC 95c, 17p, ED 029 508.

Religious Television Programs; A Study of Relevance, A. William Bluem, 1969, Available from Hastings House, Publishers, 10 East 40th St., New York, N.Y. 10016 ($2.50), 235p, ED 030 826.

A nationwide questionnaire survey of over 430 television stations as to religious program activity during the year July 1, 1964, to June 30, 1965, sought data on such matters as weekly hours of program time, program types and styles, and subjective evaluations of the value and professional quality of programs used or created by the stations.

Educational Television in Japan, Jose Maria De Vera, Available from Charles E. Tuttle Co., 28 S. Main St., Rutland, Vermont 05701; Sophia University, Tokyo, 1967, 140p, ED 031 077.

With an eye toward further collaboration between U.S. and Japanese broadcasters, the overall approach and effect of Japanese educational television (ETV) is examined.

The ITV Humanities Project: A History of Five Experimental Programs for Instructional Television, WGBH Educational Foundation, Boston, Mass., 1968, EDRS Price MF 75c, HC $6.24, 154p, ED 031 080.

In 1967, the ITV Humanities project sponsored a search for instructional television series proposals which were to show an innovative, interdisciplinary approach to the teaching of humanities at the high school level. Five proposals were selected to be developed into pilot productions. The report is intended primarily for anyone who may be interested in the problems related to producing instructional television programs.

A Survey of Television, Stuart Hood, 1968, 186p, Available from William Heinemann Ltd., 400 East 72nd St., New York, N.Y. 10021 (35S/$4.20), 186p, ED 031 082.

Based on the author's experiences in executive positions in both the British Broadcasting Corporation (BBC) and Independent Television (ITV), this survey offers his personal views on the purpose, achievement and shortcomings of the television industry. The history of the BBC and its commercial counterpart, ITV, is chronicled. A postscript outlines the effect of the June 1967 reallocation of licenses under the Independent Television Authority.

Cross-Media Evaluation of Color T.V., Black and White T.V. and Color Photography in the Teaching of Endoscopy. Appendix A, Sample Schedule. Appendix B, Testing; Appendix C, Scripts; Appendix D, Analyses of Covariance, Howard Balin and others, Pennsylvania Hospital, Philadelphia, September 1968, EDRS Price MF $1.00, HC $10.45, 207p, ED 031 083.

"The Structure and Activities of the Cyprus Broadcasting Corporation," Andreas Christofides, EBU Review (Part B); n 116B, July 1969, 16-19, ED 031 101.

The Open University; Report of the Planning Committee to the Secretary of State for Education and Science, British Dept. of

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Education and Science, London (England), 1969. Available from Her Majesty's Stationery Office, 49 High Holburn, London W.C. 1 (4s. Od.), 39p, ED 031 660.

The aim is to provide education at the undergraduate and post graduate levels for those unable to achieve their aims through an existing institution. Lecture, broadcasting supported by printed literature, and regular written work are some of the methods recommended. Each degree course will make use of correspondence course techniques which will provide the nucleus around which an integrated sequence of radio and television programs, of discussion groups and short residential courses can be built.

World of Work: Grade Nine, Teacher's Guide for the School Year 1967-1968, Minneapolis Public Schools, Minn., 1968, EDRS Price MF 25c, HC $1.90, 36p, ED 031 723.

This manual is designed to serve the classroom teacher as a guide to the accompanying televised series of programs on the world of work.

North Hagerstown High School, Hagerstown, Maryland. Profiles of Significant Schools, Evans Clinchy, Educational Facilities Labs., Inc., New York, N.Y., February 1960, EDRS Price MF 25c, HC $1.25, 23p, ED 031 875.

A profile is presented for a high school designed to house a closed circuit television system as a basic part of the instructional program.

The Television Iceberg, P. L. Grant, Speech presented at the NAPPA Annual Meeting (54th, Universite de Montreal, Quebec, Canada, April 30-May 5, 1967), EDRS Price MF 25c, HC 55c, 9p, ED 031 891.

This presentation is concerned with television as it relates to the planning and administration of facilities in which it is utilized. Audience reactions to the presentation are included.

"Unit Costs Provide Basis for Meaningful Evaluation of Efficiency of TV Courses," Gardner Jones and others, *College and University Business*, 47, 4, April 1969, 124-130, ED 031 897.

Summary of Closed Circuit Television Activities in Medical Education, London Univ. (England). Association for the Study of Medical Education; London Univ. (England). Inst. of Education. Interuniversity Research Unit, 1967, EDRS Price MF 25c, HC $1.00, 18p, ED 031 918.

The Medium May be Related to the Message: College Instruction by TV, Robert Dubin and others, Oregon Univ., Eugene. Center for Advanced Study of Educational Administration, 1969, EDRS Price MF 75c, HC $6.35, 125p, ED 031 926.

This book tries to answer three questions: 1. Can a distinction be made between the consequences of students being taught by ETV and the consequences achieved by other teaching technologies? 2. Is there a systematic way in which the attitudes of college professors relate to the possibility that they may have to use ETV in their teaching; and 3. Is there a special student reaction to being taught by ETV compared with their reaction to the instructional technologies replaced by television instruction?

Repeated Self-Viewings on Closed-Circuit Television as it Affects Changes in Students' Awareness of Themselves as Speakers. Final Report, Richard J. Dieker and others, Western Michigan Univ., Kalamazoo, September 30, 1968, EDRS Price MF 50c, HC $3.25, 63p, ED 031 934.

The Bulletin of the National Association of Secondary School Principals, 50, 312, October 1966, 226p.

The forty-two articles in this handbook are designed to draw the attention of secondary school principals and teachers to radio and television, their role in society, and their current place in secondary school education; to justify the continued existence of radio and television in the secondary school; and to point out new ways in which radio and television can benefit secondary education.

Using Instructional TV, Harold E. Wigren, Elementary, Kindergarten and Nursery Education, Washington, D.C., EDRS Price MF 25c, HC available from Department of Elementary-Kindergarten-Nursery Education, National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. 20036, 6p, ED 031 944.

Postulating that instructional television (ITV) is invaluable to the elementary school teacher, this leaflet likens the teacher to the medical practitioner.

Educational Television Across Canada. The Development and State of ETV 1968, Earl Rosen, Ed. and Elizabeth Whelpdale, Ed., 1969, Available from Metropolitan Educational Television Association (META), 84 Queens Park, Toronto, Ontario, Canada, 95p, ED 031 947.

Television in Postgraduate and Continuing Medical Education. 4th and 5th October, 1968, C. E. Engel, Ed. and R. Meyrick, Ll., Ed., British Medical Association, London (England). Association for the Study of Medical Education. Television Sectio.; British Medical Association, London (England). Dept. of Audio Visual Communication, 1969, Available from Department of Audio Visual Communication, British Medical Association, Tavistock Square, London, England W.C. 1 (10s; $1.80), 71p, ED 031 955.

The proceedings of a conference on television in postgraduate and continuing medical education for general practitioners are presented in this three-part report.

The Effect of Different Television Utilization Procedures on Student Learning. Final Report, Serena E. Wade, Santa Clara County Office of Education, San Jose, Calif. April 1968, EDRS Price MF 25c, HC $2.20, 42p, ED 031 958.

"Student Achievement as a Function of Verbal Interaction in the Classroom," John Burrell Cook, Minnesota Univ., Minneapolis, General College, *The General College Studies*, 5, 4, 1968-69, 6p, EDRS Price MF 25c, HC 40c.

This report compares CCTV with traditional teaching techniques. A chemistry course, taught by one instructor using two methods, was examined for two quarters.

Videotaped Instruction for the Teaching of Skills, Donald R. McVay, Shoreline Community Coll., Seattle, Wash., July 17, 1969, EDRS Price MF 25c, HC 90c, 16p, ED 032 054.

Games and Simulation Paper By Twelker Published

A new "guides to the literature" paper—one on games and simulation—has been issued by the clearinghouse. Prepared by Paul A. Twelker of the Oregon System of Higher Education, the 17-page paper includes "A Mini-Report on the State of the Field."

While a limited supply lasts, complimentary copies of the annotated bibliography are available from the clearinghouse.

CIT Support Papers To Be Available Through ERIC

Individuals who waited a long time for the report of the President's Commission on Instructional Technology to be released also have been waiting a long time for the 118 supporting papers. These papers, covering a broad range of subjects, were prepared—at the commission's request—by leaders in the field.

Commercial publication supposedly is being arranged, but in the meantime many of the documents will be available through the ERIC Document Reproduction Service.

The Stanford clearinghouse currently is processing the papers as individual documents, and they should be announced in *Research in Education* by October or November. Some of the papers will not be available from EDRS until later, if at all, because the clearinghouse has not been able to obtain legible copies.

In the meantime, the report itself *(To Improve Learning: A Report from the Commission on Instructional Technology)* remains available for 50c from the U.S. Government Printing Office, Washington, D.C. 20402. Included in the report is a listing of all the commissioned papers.

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A Comparative Study of Current Educational Television Programs for Preschool Children. Final Report. Edward L. Palmer and others, Oregon State System of Higher Education, Monmouth. Teaching Research Div., June 30, 1968, EDRS Price MF 50c, HC $5.10, 100p. ED 032 123.

Television for Higher Technical Education of the Employed. A First Report on a Pilot Project in Poland. Reports and Papers in Mass Communication, 55. United Nations Educational, Scientific, and Cultural Organization, Paris (France), 1969. Available from United Nations Educational, Scientific and Cultural Organization, Place de Fontenoy, Paris 7, France (COM/MC/68.17, $1.25), 49p. ED 032 503.

1968 Summary Report: Implications for the Use of Television in Schools for the Deaf. Tennessee Univ., Knoxville, 1968, EDRS Price MF 25c, HC $2.45, 47p. ED 032 668.

X-Ray Protection Standards for Home Television Receivers. National Council on Radiation Protection and Measurement, Washington, D.C., February 23, 1968. Available from National Council on Radiation Protection and Measurement, 4201 Connecticut Ave., N.W., Suite 402, Washington, D.C. 20008. 4p. ED 032 734.

Instructional Television and Radio in the Detroit Public Schools, Survey and Recommendations: Report of a Special Survey Group in Cooperation with the National Project for Improvement of Televised Instruction. I. Keith Tyler, January 1967. Available from I. Keith Tyler, School of Education, Ohio State University, Columbus, Ohio 43209, 234p. ED 032 749.

Report on Research into the Effectiveness of Medical Television Programmes, February, 1966-July, 1967. London Univ. (England). Association for the Study of Medical Education, February 1968, EDRS Price MF 25c, HC $2.75, 53p. ED 032 752.

Handbook for Classroom Videotape Recording. Helen C. Lynch. Available from Southeastern Educational Corporation, Inc., 3450 International Boulevard, Atlanta, Georgia (upon request), 31p. ED 032 764.

This guide is designed to increase the effectiveness of using portable videotape equipment in classrooms for improving instruction.

Communication Satellites for Education and Development – The Case of India. Volume Two. Wilbur Schramm and Lyle Nelson, Stanford Univ., Calif. Inst. for Communication Research, August 1968, EDRS Price MF $1.25, HC $13.80, 274p. ED 032 766.

The Effect of Video-Taped Single Concept Demonstrations in an In-Service Program for Improving Instruction. Lorraine Woolman, Houston Univ., Tex. Bureau of Educational Research and Service, 1969, EDRS Price MF 50c, HC $3.50, also available from Bureau of Education Research and Services, College of Education, University of Houston, Houston, Texas 77004 ($2.50), 68p. ED 032 771.

Toward a Significant Difference: Final Report of the National Project for the Improvement of Televised Instruction, 1965-1968. National Association of Educational Broadcasters, Washington, D.C., 1969, EDRS Price MF 25c, HC $2.25, 43p. ED 032 774.

A three-year National Project for the Improvement of Televised Instruction was devised to develop a plan for using instructional television (ITV) in education. The project placed major emphasis on learning efficiency and a systems approach and used two sources of continuing information: a National Seminar on Learning and Television and a Field Consultant Service.

Science Programming and the Audiences for Public Television. An Evaluation of Five Programs in the NET "SPECTRUM" Series. National Educational Television, New York, N.Y., 1969, EDRS Price MF 25c, HC $2.25, 43p. ED 032 775.

Patrik and Putrik and Clown Ferdl: Findings and Cognition on the Television Perception of Children and Young People Based on the Prize-Winning Programmes of Prix Jeunesse 1966. Publications of the Internationales Zentralinstitut fur das Jugend- und Bildungsfernsehen, Number 3. Francine Griebel, Ed. and Anette Burger, Ed., International Central Inst. for Youth and Educational TV, March 1969, EDRS Price MF 50c, HC $5.55, 109p. ED 033 577.

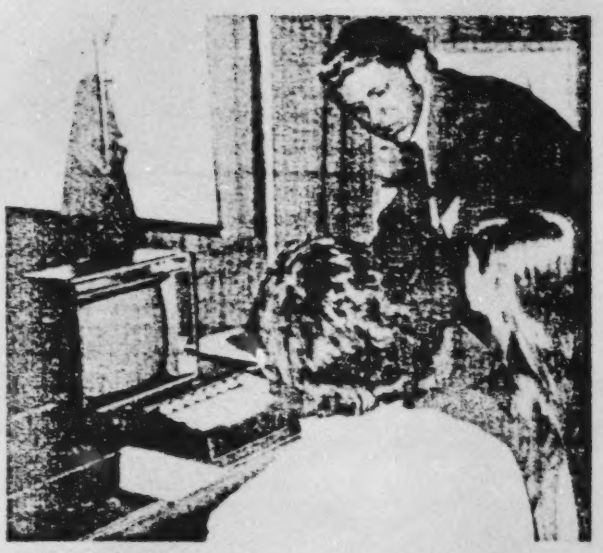
Guidelines for the Integration of Instructional Television in Speech and Hearing Facilities. Gary D. Borich, Indiana Univ., Bloomington. Speech and Hearing Center, 1969, EDRS Price MF 25c, HC $1.75, 33p. ED 033 585.

A Study of the Feasibility of a Centralized Instructional Television Production Facility for Higher Education Institutions in Utah. Thomas David Toyn, Brigham Young University, Provo, Utah. Dept. of Communications, August 1969, Thesis submitted to the Department of Communications of Brigham Young University, Provo, Utah. EDRS Price MF 50c, HC $5.70, 112p. ED 033 589.

Designing a Program for Broadcast Television. Gerald S. Lesser, Harvard Univ., Cambridge, Mass., 1969, EDRS Price MF 25c, HC 40c, 6p. ED 033 768.

Funded by both public and private agencies, Sesame Street, produced by the Children's Television Workshop, is an experimental series of television programs for 3- to 5-year-olds.

Mexican American Education Research Program: Solutions in Communications. Report to the California State Department of Education. Santa Clara County Office of Education, San Jose, Calif., 1969, EDRS Price MF 25c, HC 80c, 14p. ED 033 806.



A visitor to the clearinghouse booth at the 1970 DAVI convention in Detroit gets a question answered about computerized information retrieval. Eric Beamish, at right, is senior associate for instructional development in the State University of New York's Office of Educational Communications. Michele Timbie is shown at the console, which was linked to a California computer.

Some DAVI Microfiche Still Available

A small number of special microfiche were left over from the 1970 Department of Audiovisual Instruction (DAVI) convention. A one or two-page abstract of each research paper presented at the Detroit convention is included on the ERIC at Stanford fiche, and while the supply lasts a complimentary copy is available from the clearinghouse.

The full text of many of the convention papers will be available from the ERIC Document Reproduction Service in about three months. Ordering information will be announced in *Research in Education.*

(More Television & Radio)

The report describes an evaluational study of a series of 8 television programs for in-service training of teachers of Mexican-American children with language difficulties.

A Case Study: American Literature as Taught on Television in Detroit Public Schools from 1957 to 1963, Clifford Eugene White, 1964, Ph.D. Dissertation, Wayne State University, 1964, Available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48103 (Order No. 68-13,448, Microfilm $5.30, HC $18.70), 415p, ED 033 962.

Workshop II: Video Technology & Programs for the Deaf: Current Developments & Plans for the Future, Southern Regional Media Center for the Deaf, Knoxville, Tenn., February 1969, EDRS Price MF 75c, HC $6.60, 130p, ED 034 334

Television and Ghetto Education: The Chicago Schools Approach, Rudy Bretz, Rand Corp., Santa Monica, Calif., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-689 244, MF 65c, HC $3.00), 17p, ED 034 402.

Closed Circuit Television Model Program, Glen D. Elms, Elk Grove Training and Development Center, Arlington Heights, Ill., June 1969, EDRS Price MF 50c, HC $3.10, 60p, ED 034 407.

A Closed Circuit TV System for the Visually Handicapped and Prospects for Future Research, S. M. Grenensky and others, Rand Corp., Santa Monica, Calif., July 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-691 437, MF 65c, HC $3.00), 20p, ED 034 419.

Television in Army Training: Evaluation of Television in Army Basic Training, Joseph H. Kanner and others, George Washington Univ., Alexandria, Va. Human Resources Research Office, November 1954, EDRS Price MF 50c, HC $3.45, 67p, ED 034 424.

Heading for Change: A Background Work-Book for the Harlech Television and University of Bristol Institute of Education Series. Supplement, Heading for Change: A Report, William Taylor, Bristol Univ. (England). Inst. of Education, 1969, Available from Harlech Television Limited, P.O. Box 58, Cardiff, England, 73p, Supplement, 14p, ED 034 435.

A series of eight television programs was prepared to stimulate discussion of the human relations and management issues that arise in connection with innovation and change in the secondary school. A workbook presented a group of letters and memos from the files of a hypothetical secondary school, background notes on the content of the programs, extracts from books and articles, and some suggestions for further reading.

An Introductory Study of the Status and the Trends of Radio and Television Activity in Accredited Two-Year Institutions in the United States, Daniel Vramonte, Jr., 1969, Doctoral dissertation, available from University Microfilms, 300 North Zeeb Road, Ann Arbor, Michigan 48106, 468p, ED 034 524.

"Applications of Videotape Procedures to Training and Research in the Area of the Emotionally Disturbed," Oliver L. Hurley and Larry K. Brendtro, Yeshiva University Graduate School, *Exceptional Children*, 34(10), 1968, 755-756.

"Impact of Television on Farmers," S. K. Sharma and A. N. Mishra, *Indian Journal of Extension Education*, 3(4), 1968, 248-254.

Self Concept Changes in College Freshmen Women in a Basic Physical Education Course Using Two Methods of Instruction, Fay Reitsnyder Biles, Ohio State University, 1968, dissertation available from University Microfilms, 300 N. Zeeb Road, Ann Arbor, Mich. 48106 (Order No. 69-4847), Microfilm $3, HC $5.80, 118p.

The use of televised instruction seemed more effective than traditional methods in changing self concepts.

"Foreign Language on Television for Extramural Students of Institutions of Higher Learning," E. N. Kanishcheva and G. N. Kikolaenko, All-Union Extramural Polytechnical Institute, Moscow, U.S.S.R., *Vestnik, Vysshei Shkoly*, 26(11), 1968, 25-27.

"Using the Closed Circuit System," A. V. Svyatskii, State Pedagogical Institute of Foreign Languages, Minsk, U.S.S.R., *Vestnik, Vysshei Shkoly*, 26(11), 1968, 27-29.

"Lecture Demonstration in the Television Course," K. G. Finogenov, Institute of Engineering Physics, Moscow, U.S.S.R., *Vestnik Vysshei Shkoly*, 26, 12, 1968, 12-22.

Demonstration materials used in a traditional physics course cannot be used in television lectures.

A Description of Similarity of Personality Between Selected Groups of Television Viewers and Certain Television Roles Regularly Viewed by Them, Maxwell V. Perrow, University of Southern California, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 Order No. 68-17,037), Microfilm $3, HC $10.60, 232p.

Instructional Television: Inquiry Method of Instruction in Fifth and Sixth Grade Science, Mary M. Beets, United States International University, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 68-14,754), 140p., Microfilm $3, HC $6.60.

Miscellaneous or More Than One Medium

The Technology of Instruction in Mexican Universities, Noel F. McGinn and others, Asociacion Nacional de Universidades e. Mexico City (Mexico). Institutos de Ensenanza Superior.; Education and World Affairs, New York, N.Y.; Harvard Univ., Cambridge, Mass. Graduate School of Education, 1968, Available from Education and World Affairs, 522 Fifth Avenue, New York, New York 10036, 76p, ED 030 387.

The purposes of this study were to assess the presence and use of instructional aids and teaching arrangements in Mexican universities; to explain the existence and use of such aids; and to suggest policies and procedures intended to improve instruction in Mexican universities.

Books About Indians and Reference Material, Idaho State Dept. of Education, Boise, 1968, EDRS Price MF 25c, HC $1.20, 22p, ED 030 531.

Over 500 entries are listed in this bibliography of materials available about the American Indian. Books, films, and filmstrips are listed along with the publisher or company producing the items.

Mass Media in the Developing Countries: A UNESCO Report to the United Nations. Reports and Papers on Mass Communication, Number 33, United Nations Educational, Scientific, and Cultural Organization, Paris (France), 1961, EDRS Price MF 25c, HC $2.45, Available from UNESCO Publications Center, P.O. Box 433, 317 E. 34th St., New York, N.Y. 10016 (50c), 47p, ED 031 079.

This report describes past efforts, both by special agencies and by United Nations organs, to develop information media, and sketches the problems of developing information media in society, focusing on the problems as they exist in South East Asia, Latin America, Africa, the Middle East, and other areas. It concludes with a discussion about financing a development program.

Audio Visual Market Place; 1969 Edition, 1969, Available from R. R. Bowker Company, 1180 Avenue of the Americas, New York, N.Y. 10036 (U.S.A. and Canada: $12.25; $13.50 elsewhere).

ERIC Fiche and Hardcopy To Cost Less Outside the U.S.

At least until next February 20, orders for ERIC microfiche and hardcopy from outside the United States will cost less. Orders from Canada and Mexico will have no extra "export charge" added if they are for less than $50, and will have a 15% charge added if they are over $50.

Export charges have been reduced from 25% to 15% on all foreign orders for collections and standing orders for microfiche announced in *Research in Education*.

(More Miscellaneous)

177p, ED 031 085.

This is the first edition of a new directory of the audiovisual industry listing producers and distributors of equipment and services. Also listed are organizations, conventions, film festivals, and publications concerned with the new media: films, filmstrips, slides, film loops, tapes, transparencies, maps and globes.

Great Cities Research Council Educational Communications Project. Final Report. Appendices: Exhibit A, Data Processing in the Great Cities, March 1967. Exhibit C, Creativity in Urban Education, Exhibit D, the Central Cities Conference, Great Cities Program for School Improvement, Chicago, Ill., February 1969, EDRS Price MF $1.75, HC $20.60, 410p, ED 031 087.

Surveys of the data processing systems and the innovations in instruction and resource materials in 16 school districts in the cities of Baltimore, Boston, Buffalo, Chicago, Cleveland, Detroit, Los Angeles, Memphis, Milwaukee, New York, Philadelphia, Pittsburgh, San Diego, San Francisco, St. Louis, and Washington, D.C., are detailed in this report.

Training Methodology, Part 4: Audiovisual Theory, Aids, and Equipment. An Annotated Bibliography, Public Health Service (DHEW), Washington, D.C., Health Services and Mental Health Administration, May 1969, EDRS Price MF 50c, HC Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. (0-334-248 75c), 89p, ED 031 629.

Emphasis on Excellence in School Media Programs. Descriptive Case Studies Special-Purpose Grant Programs, May 1969, EDRS Price MF $1.00, HC Available from Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (FS 5.220:20123, $1.75), 227p, ED 031 957.

Eight elementary high schools in New York, North Carolina, Oregon, California, and Kansas were awarded $635,253.00 in Federal funds to develop demonstration media programs. Interviews with students, teachers, media specialists, principals, and visitors showed some degree of positive change in curriculum and instruction, utilization of materials by teachers, school and community attitudes, and pupil behavior as a result of the funding.

Guide to Materials for Reading Instruction, Supplement I, Wayne E. Bertridge and Larry A. Harris, Indiana Univ., Bloomington, September 1969, EDRS Price MF 75c, HC $9.10, 180p, ED 032 452.

This guide was prepared in order to inform educators of the variety of new materials available in the field of reading instruction. Hard cover and paperback books, workbooks, audiovisual aids, teacher resources, and boxed materials are listed under either Basal or Nonbasal categories.

Sources in Educational Research. A Selected and Annotated Bibliography; Volume I: Parts I-X, Theodore Manheim and others, 1969, Available from Wayne State University Press, Detroit, Michigan 48202 ($8.98), 317p, ED 032 753.

This handbook serves as an introduction to the research literature in the various fields of education, citing those titles considered to be most useful to the graduate student or advanced undergraduate making his first acquaintance with educational research.

The Classroom Communicator (Rapid Mass Learning). Technical Report, C. R. Carpenter and others, Pennsylvania State Univ., University Park, Coll. of Education, October 1950, EDRS Price MF 25c, HC $1.75, 33p, ED 032 755.

An Experimental Study of the Relative Pedagogical Effectiveness of Videotape and Audiotape Playback of Student Speeches for Self Analysis in a Basic Speech Course. Final Report, Anthony John Mulac, Eastern Michigan Univ., Ypsilanti, December 1968, EDRS Price MF $1.00, HC $11.80, 234p, ED 032 760.

Instructional Process and Media Innovation, Robert A. Weisgerber, Ed., 1968, Available from Rand McNally and Company, P.O. Box 7600, Chicago, Ill. 60680, 569p, ED 032 762.

Part I of this book considers the relationship of media to curriculum, acquisition of skills, concepts, attitude development and creativity. Part IV discusses computers, films, and television. The final section treats the implications of instructional objectives for learning; location, selection, and production of teaching and learning resources; the follow-up of use of audiovisual materials, and criterion-referenced testing for the measurement of educational outcomes.

AV Instruction Media and Methods: Third Edition, James W. Brown, Ed. and others, 1969, Available from McGraw-Hill Book Company, 330 West 42nd Street, New York, N.Y. 10036 ($11.50), 621p, ED 032 765.

In addition to updating material covered in the second edition and providing more illustrative material, this edition attempts to offer a systematic approach to the integration of instructional aids into the curriculum. It discusses the use of significant new developments in instructional technology-multimedia packages or kits, programed instruction, computer assisted instruction (CAI), and video tape recordings. The directory of sources, glossary subject reference guide, and bibliographies have also been updated.

Graduate Instruction via Telephone, Supplementary Education Center, Homer, N.Y., Finger Lakes Region, 1968, EDRS Price MF 25c, HC $1.05, 19p, ED 032 767.

Sixty-nine teachers in 14 school districts were taught reading diagnosis by telephone in a study to determine whether the telephone can be used to spread instruction over a wide area.

Research and Development in the Educational Materials Industries, Carnegie Corp. of New York, N.Y.; Ford Foundation, New York, N.Y., 1969, Available from Institute for Educational Development, 52 Vanderbilt Ave., New York, N.Y. 10017 ($8.00), 73p, ED 032 777.

Under the sponsorship of the Carnegie Corporation and the Ford Foundation, a study was instituted to examine research and development in the educational materials industry.

Comparison of Two History Instruction Methods: Radio Broadcasting and Visual Aids Versus Individualized Instruction with Audio-Visual Aids. Final Report, Richard E. Banister, Mount San Jacinto Coll., Gilman Hot Springs, Calif., July 1969, EDRS Price MF 25c, HC 90c, 16p, ED 032 783.

AV Instructional Materials Manual; A Self-Instructional Guide to AV Laboratory Experiences. Third Edition, James W. Brown, Ed. and Richard B. Lewis, Ed., 1969, Available from McGraw-Hill Book Co., 330 W. 42nd St., New York, N.Y. 10036 ($4.95), 188p, ED 033 582.

Individualized Instruction

Those interested in any aspect of Individualized Instruction will want to take a look at the June 1970 issue of *Research in Education*. Beginning on page 51 (ED 036 147), a whole series of documents from the Individually Prescribed Instruction Project are abstracted.

The IPI project is one of the oldest of the "totally individualized" programs, and almost all areas of interest in individualized instruction are represented in the over 50 documents announced. For example, there are documents on the preparation of teachers for teaching with IPI, and on the evaluation of various IPI courses.

Film Guides from Olympic On Ordering, Showing, Stimulating

Three free one-page guides to help you use films effectively are available from Olympic Film Service, 161 West 22 St., New York, N.Y. 10011. Each guide is written in straightforward style and offers practical "how to get started" advice.

The three are "How to Order Films for Preview and Rental," "How to Conduct a Film Showing," and "How to Stimulate Lively Film Discussions." The company asks that requests be made on school or organization letterheads, and that a stamped self-addressed envelope be enclosed.

Nine instructional technology leaders met in Washington D.C. in May to help the Stanford clearinghouse plan its future activities. Shown above, left to right, are William J. Paisley (clearinghouse co-director), Albert Hickey (Entelek), William H. Allen (University of Southern California) and Robert C. Gerletti (Los Angeles County Schools). Others on hand for the meeting were C. Ray Carpenter (University of Georgia), Robert T. Filep (Institute for Educational Development), William G. Harley (National Association of Educational Broadcasters), Anna Hyer (Department of Audiovisual Instruction, NEA) Thomas D. Clemens and Andrew R. Molnar (both of the U.S. Office of Education), and Don H. Coombs (of the Stanford clearinghouse). One outcome of the meeting, and of asking the advice of 60 other individuals in the instructional technology field, is the report *Trends in Instructional Technology, 1970.* Dr. Allen was editor of the report, and copies will be available this fall from the Stanford clearinghouse.

BULLETIN
from
the ERIC Clearinghouse on Educational Media and Technology
at the Institute for Communication Research
Stanford University
Stanford, Calif. 94305

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Inside this Issue: Film 100 Years From Now (p. 6) How Germans Judge TV (p. 4)

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ERIC at Stanford

The Newsletter
from the Clearinghouse
on Educational Media and Technology

The 16th: Another Different Kind of "Now Available" Service

The previous two *Now Availables* were different from former ones in that the documents which were listed were departmentalized. The present *Now Available* differs in another way: It has a selective, rather than an exhaustive, listing of recent ERIC documents relevant to Instructional Technology.

Expediency is one of the reasons for the change, but there are others. We came to realize that few readers fought their way through the long lists of documents, and that those few would be better served by direct reference to *Research in Education*, the Government Printing Office monthly index to all documents in the ERIC collection.

The clearinghouse will continue to screen the documents processed by all ERIC clearinghouses for inclusion in *Now Available*, but will select only those considered to be of unusual interest to ERIC at Stanford's clientele.

Since this explanation has turned into something of an editorial, it is perhaps appropriate to express appreciation for the recent letters commenting on the new format of *Now Available*. Modesty prevents us from printing them, while honesty compels us to report that several other letters criticized the editor's sense of humor. We didn't think those letters were very funny.

In this issue of *Now Available*, documents are listed which deal with

Telecommunication
Theory, Standards, and Models
Systems Approach
Film
Media Instruction
Microteaching
Audiovisual General
Centers
Computers

In future issues, documents will be listed which deal with

Television and Radio
Programed Instruction
Audio Recording

Adults Need to Tune In On Child's Media Environment

By Margaret Mead*
Curator of Ethnology Emeritus
American Museum of Natural History

Today's teachers will be increasingly called upon to teach in fields where they lack both childhood experience and contemporary knowledge and where many of the children in the class, who have been attending to the mass media, are more knowledgeable than they. Faced with this condition, we have several options. We can try to re-educate the teachers, to simulate the experience

Margaret Mead

of learning as a child by a condensed experience of learning as an adult.

This process of placing today's adult teachers in the position of children who learn new things has been experimented with in various ways. Some brilliant young foreign students, when they go to a new country, spend considerable time associating with younger people so as to capture the steps by which their age mates reached their present position as college students or medical students. The

(Continued on page 3)

*This selection is excerpted from the paper "Age Discrepancies in the Understanding and Use of Modern Technology, Especially the Mass Media" which was prepared for the President's Commission on Instructional Technology. The full text of this paper, and of many of the other CIT support papers, will be available from the ERIC Document Reproduction Service in October 1970. An even fuller treatment of Margaret Mead's subject appears in her new book, *Culture and Commitment: A Study of the Generation Gap* (Natural History Press, Doubleday and Co.).

Telecommunication

Satellite Communications and Educational Television in Less Developed Countries. President's Task Force on Communications Policy. Staff Paper Three, Eugene V. Rostow, President's Task Force on Communications Policy, Washington, D.C., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (PB-1 84-415, Microfilm 65c, HC $3.00), 208p.

Future Opportunities for Television Part II. Telecommunications in Urban Development. President's Task Force on Communications Policy. Staff Paper Six, Part B, Eugene V. Rostow, President's Task Force on Communications Policy, Washington, D.C., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (PB-184 420, MF 65c, HC $3.00), 125p, ED 033 596.

Future Opportunities for Television. Part I. President's Task Force on Communications Policy. Staff Paper Six, Eugene V. Rostow, President's Task Force on Communications Policy, Washington, D.C., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (PB-184-419, MF 65c, HC $3.00), 257p, ED 033 606.

The Use and Management of the Electromagnetic Spectrum, Part I. President's Task Force on Communications Policy. Staff Paper Seven, Part I, Eugene V. Rostow, President's Task Force on Communications Policy, Washington, D.C., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (PB-184-421, MF 65c, HC $3.00), 364p, ED 033 608.

President's Task Force on Communications Policy, Domestic Applications of Communication Satellite Technology. Staff Paper Four, President's Task Force on Communications Policy, Washington, D.C., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (PB-184-416, MF 65c, HC $3.00), 150p, ED 033 609.

President's Task Force on Communications Policy. Final Report, Eugene V. Rostow, President's Task Force on Communications Policy, Washington, D.C., December 7, 1968, EDRS Price MF $2.00, HC available from Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402 (GPO 0-351-636, $4.50), 508p, ED 034 417.

The final report of the President's Task Force on Communications Policy recommends strengthened federal powers to form public policy in telecommunications. Such planned policy would enable the private sector to reach its full capacities in the field by improving regulation when it is necessary and removing unnecessary regulation.

Theory, Standards, and Models

The Schools and the Challenge of Innovation, H. Thomas James and others, Committee for Economic Development, New York, N.Y. Research and Policy Committee, January 1969, Available from Committee for Economic Development, 477 Madison Ave., New York, N.Y. 10022 ($4.00), 369p, ED 030 300.

Authors prominent in educational innovation and technology do not always agree, but a broad pattern of agreement is discernible. They agree on the identification of those major problems confronting the schools today as a result of the new social forces at work, and generally they agree in assessing the significance of the new innovative developments in education, though they do not necessarily agree on their desirability.

A Study of the Effects on Pupil Achievement of Certain Audio and Visual Presentation Sequences. Final Report, Armand J. Galfo, College of William and Mary, Williamsburg, Va. School of Education, EDRS Price MF 25c, HC $1.85, 35p, ED 029 505.

An investigation was made to determine whether pupils learn

Documents Processed And/Or Cited By the Clearinghouse

Most documents listed here can be ordered, in microfiche or hardcopy form, from the ERIC Document Reproduction Service. If a document is not available from EDRS, information is given on where it can be obtained, or at least where it was published.

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Ann Arbor, Mich. 48106

more when sight and sound are not presented simultaneously, and whether audio or visual redundancy cause a cueing effect which produces a superior sight-sound or sound-sight sequence. Pupils learned less when sight and sound were not presented simultaneously.

Standards for Cataloging, Coding and Scheduling Educational Media, Department of Audiovisual Instruction, Washington, D.C., 1968, EDRS Price MF 25c, HC available from National Education Association, 1201 Sixteenth St., N.W., Washington, D.C., 20036 (Stock No. 071-02734, $1.00), 55p, ED 031 917.

Redundancy in Simultaneously Presented Audio-Visual Message Elements as a Determinant of Recall, Final Report, Thomas F. Baldwin, Michigan State Univ., East Lansing, June 1968, EDRS Price MF 50c, HC $5.55, 109p, ED 031 933.

Standards for School Media Programs, American Library Association, Chicago, Ill.; National Education Association, Washington, D.C., 1969, Available from American Library Association, 50 Huron St., Chicago, Ill. 60611 or the National Education Association, 1201 Sixteenth St., N.W., Washington, D.C. 20036, 83p, ED 031 086.

Readings in Educational Media Theory and Research: Volume I, Final Report, William H. Allen, August 1968, EDRS Price MF 75c, HC $8.60, 170p, ED 031 952.

Readings in Educational Media Theory and Research: Volume II, Final Report, William H. Allen, August 1968, EDRS Price MF $1.00, HC $11.90, 236p, ED 031 953.

Readings in Educational Media Theory and Research: Volume III, Final Report, William H. Allen, August 1968, EDRS Price MF 75c, HC $9.75, 193p, ED 031 956.

Instructional Technology and the Teaching Profession, QUEST Paper Series, No. 6, David Selden and Robert D. Bhaerman, American Federation of Teachers, Washington, D.C., 1969, EDRS Price MF 25c, HC 85c, also available from American Federation of Teachers, Department of Research, 1012 14th Street, N.W., Washington, D.C. 20005 (20c), 15p, ED 032 238.

Examination of potential corrosive effects which the use of instructional technology could have on the teaching profession indicates that there are three problem areas where alternatives exist. First, educational objectives should be the criteria used in assessing the new approaches. Second, standards in such areas as class size, teacher qualifications, and instructional budgets must be maintained or strengthened. Third, indications that the new media and appliances will provide a variety of new educational roles and will require additional personnel have resulted in pressure to use varying pay grades for staff members.

Cybernetic Principles of Learning and Educational Design, Karl U. Smith and Margaret Foltz Smith, 1966, Available from Holt, Rinehart and Winston, Inc., 383 Madison Avenue, New York, N.Y. 10017 ($9.95), 529p, ED 032 750.

This book presents the cybernetic theory of learning and the evidence which supports it. A general overview of learning theories other than behavior cybernetics is included.

Chart-Recorded Capillary Pulse Pressure Measurement as an Unobtrusive Means of Detecting Unspecified Frame-Specific Flaws in Programmed Instruction Sequences: An Experimental Study, Final Report, Lawrence E. Fraley, Jr., University of Southern California, Los Angeles, School of Education, May 1969, Thesis submitted to the School of Education of the University of Southern California, Los Angeles, EDRS Price MF $1.25, HC $14.65, 291p, ED 032 784.

Standards for School Media Programs, American Library Association, Chicago, Ill.; National Education Association, Washington, D.C., 1969, EDRS Price MF 25c, HC available from American Library Association, 50 Huron St., Chicago, Ill. 60611; National Education Association, 1201 Sixteenth St. N.W., Washington, D.C. 20036 ($2.00), 44p, ED 033 616.

Perception of Language: Proceedings of a Symposium of the Learning Research and Development Center; Parts I and II, Paul M.

Margaret Mead, Cont.

field anthropologist does the same thing in learning a new language, simultaneously associating with young children—and learning as the children learn—and using highly abstract linguistic techniques to approach the language analytically. . . .

The librarian presents another model by which teachers, themselves unfamiliar with the subject matter or point of view which they must now teach, can nevertheless present it to their pupils in audiovisual forms. Librarians are taught to know *about* things and to guide those who want to use the library into realms with which they themselves are totally unfamiliar. Far from being ashamed of their specific ignorance they are proud of their capacity to deal with the unfamiliar.

If suitable films and tapes are constructed for the use of teachers who are themselves unfamiliar with the subject matter, packaged in a way which makes the teacher proud of exploration rather than ashamed of ignorance, this library model can be used very constructively. But any film or tape which assumes that the teacher has, may have, or should have, a kind of contemporary knowledge which she does not have, leads to antagonism toward the new material—and to the new media—and to a tendency to clamp down on pupils' discussion as too threatening.

This undoubtedly is one of the reasons for the tremendous antagonism [toward] and faulty use of audiovisual materials. Those who have made the materials have wanted to provide content which will compensate for what the teacher does not know, but they do not make any allowance for the way in which his or her lack of knowledge is presented to the teacher so as to prevent the feeling of humiliation. . . . Today the teacher must adjust to being a guide and counselor and fellow explorer into realms in which he not only does not know more than the pupils but often knows less.

The hostility to the use of audiovisual aids, and this extends to programed learning, computers, and every sort of teaching aid which has a mechanical component—even such mundane instruments as typewriters and stop watches—is also partly a function of the different ways in which the two sexes deal with machines. Traditionally women have disliked and distrusted machinery while boys and men have in the majority of cases learned to enjoy it. All mechanical teaching aids are designed by men and implicitly set up to be used by men. Projectors are made too heavy for women to manage. Much of the equipment is unreliable and requires continuous monkeying-with and adjustment. Visual aid departments have also been manned by men.

If the new technology is to be used constructively in the school, women who form and may be expected to continue to form the majority of our instructional personnel through high school at least, must be included in the planning. Machinery must be devised which can be used with a minimum of adjustment, and educational instructional materials adapted to the style of relatively fool-proof equipment designed for feminine use—e.g., washing machines—instead of to the style of ingenious small boys who like making things that don't work, work.

Women—their whole attention concentrated on the pupils in front of them—like things that do work, not things that have to be made to work.

Not only is it necessary to take women into the

(Continued on page 4)

Margaret Mead, Cont.

designing stage for equipment and audiovisual content, because they will be constituting the majority of those who use it, but it is also essential to include children, at as early an age as possible. Only children know what children see and what children are learning on daily TV; only children know what automatically conveys the message. . . .

By the same token, instructional audiovisual or programed materials must be constantly renewed. Children are keyed to the smallest clues, from a single shift of line in a comic strip to a change in the introductory music in a film. If the message is to be fresh and learned, it must also be absolutely contemporary in every respect or the datedness must be built in, so that teacher and pupils can laugh together at how strangely old hat the ideas of five years ago are, and how much new there will be to learn. . . .

The use of modern technology in education, unless used more skillfully than at present, simply deepens the generation gap. When a professor lectures on Plato and the student yawns, the student still knows that the professor knows more about Plato than he does. His only rebellious recourse is to say Plato is irrelevant to his interests and the needs of the contemporary world. But when the teacher shows astounding ignorance both of the content of the new media and the basic technology, then the student can really brush it aside and, as in the case of the growing segment of youthful radicalism, say their elders are simply untrustworthy and incapable of managing the system in which they are still in control.

It is essential that we recognize the inexperience—in the sense of not having grown up into it—of all adults in the contemporary world, and treat the whole of our present civilization, as understood by the young, as comparable to a second language. This must be learned, if we as adults are to continue to be able to use our mother tongue, and if the children are not to be as radically disinherited as the small survivors of Dachau and Belsen who had to be parents to each other.

To make this possible, we have to institute new forms of learning together, in which adults are educated in ways of identifying and using the world as seen through the eyes of children and teenagers—as adults and youngsters work together on problems to which neither group knows the answer. . . .

(More Theory, Standards, & Models)

Kjeldergaard and others, Pittsburgh Univ., Pa. Learning Research and Development Center, 1969, Proceedings of a symposium of the Learning. Research and Development Center, Pittsburgh, Pa., January 11-12, 1968, EDRS Price MF $1.50, HC $20.35, 405p, ED 034 425.

Major areas of psychological research which are presented as chapters in the proceedings include listening, reading, and grammatical structure; age changes in the selective perception of verbal materials; acoustic and grammatical features of spontaneous speech; the perception of time compressed speech; current approaches to syntax recognition; speech and body motion synchrony of the speaker-hearer; an analysis of laterality effects in speech perception; children's language development and articulatory breakdown; and perception of phonetic segments.

What Does It Do to Johnny? A Cognitive-Functionalistic View of Research on Media, G. Salomon, June 1969, EDRS Price MF 25c, HC Not Available from EDRS, 45p, ED 034 734.

Research in instructional media needs to relate itself to research in other fields, e.g., human development, individual differences, and information processing, being nourished by other theories and in turn nourishing them. Thus it needs to deal with the functions of stimuli, laying the foundations of a prescriptive theory that concerns itself with the relationship between how things are presented and how they are learned.

"Verbal and Object Availability in the Acquisition of Language: Implications for Audio-Visual Communication," Maxwell E. McCombs, University of North Carolina, *Journal of Communication*, 19(1), 1969, 54-63.

It was suggested that a verbal or a visual presentation is more likely to be effective initially than an audiovisual presentation.

Systems Approach

Systems Analysis and Higher Education Planning, S. I. Center and others, Systems Research Group, Toronto (Ontario); Toronto Univ. (Ontario), Institute for Policy Analysis, 1969, Available from Systems Research Group, 130 Bloor Street West, Toronto, Ontario, Canada, 62p.

The use of computer simulation model, C.A.M.P.U.S., as a tool of systems analysis for effective educational management and planning is described.

A General Systems Approach to the Development and Maintenance of Optimal Learning Conditions. Professional Paper 1-68. Robert J. Seidel and Felix F. Kopstein, George Washington Univ., Alexandria, Va. Human Resources Research Office, Paper presented at American Psychological Association Annual Convention (75th, Washington, D.C., September 1967), Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-665 274, MF 65c, HC $3.00), 25p.

Film

Mental Retardation Film List, National Library of Medicine, Bethesda, Md., 1968, EDRS Price MF 50c, HC $3.35, 65p, ED 035 157.

A list of films on mental retardation with films intended for the general public grouped under the heading Nonprofessional; other are listed as Professional.

Media Instruction

Media Milestones in Teacher Training, Robert E. De Kieffer and Melissa H. De Kieffer, Educational Media Council, Inc., Washington, D.C., 1970, Available from Educational Media Council, Inc., 1346 Connecticut Avenue, N.W., Washington, D.C. 20036 ($3.00), 80 p, ED 035 318.

Two major problems are the concern of this survey: first, the status of present teacher education practices in educational media

More, and More Serious, Comment On German TV Competition

Editor:

A funny thing happened to my report on the German TV competition ("58 Hours of Programming, Judged in Great Good Spirits") on its way into *Now Available*, No. 15. It did have to be cut, I know, to meet space requirements, but the printed version stresses mechanics at the expense of value judgments. Additionally the title could suggest that the event is primarily an exercise in good times, good food, and tape machines that don't break down. The great merit of the competition at Marl is seriousness of purpose and leverage on program quality. I regret that—as edited—my article gave a different impression.

Henry C. Alter
National Educational Television

conducted by state departments of public instruction, university extension divisions, and four year institutions of higher learning in the United States; and second, a comparison of the practices of these departments, divisions, and institutions during the past 20 years.

Microteaching

Microteaching: History and Present Status, James M. Cooper and Dwight W. Allen, ERIC Clearinghouse on Teacher Education, Washington, D.C., February 1970, EDRS Price MF 25c, HC $1.95, 37 p, ED 036 471.

Microteaching. Bibliographies in Education, No. 5, Canadian Teachers' Federation, Ottawa (Ontario), Research Division, December 1969, EDRS Price MF 25c, HC 55c, 9 p, ED 036 480.

Audiovisual General

Instructional Methodology and Experimental Design for Evaluating Audio-Video Support to Undergraduate Pilot Training, George R. Purifoy, Jr., American Institutes for Research, Pittsburgh, Pa., October 1968, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-680 408, MF 65c; HC $3.00), 86p, ED 035 290.

Use of Paperbacks and Visual Aids in Teaching Composition to College Freshman, Final Report, Robert B. Gilbert, Livingston University, Livingston, Ala. October 1969, EDRS Price MF 25c, HC $1.25, 23p, ED 035 633.

The major hypothesis tested in this investigation was that college students using audiovisual aids and current reading materials would achieve greater competency in composition than would students taught by conventional methods.

Materials for Those with a Spanish-Speaking Background, Cooperative Childrens Book Center, Madison, Wisc. September 1969, EDRS Price MF 25c HC 60c, 10p, ED 036 371.

Some 151 entries are listed in this annotated bibliography of books and audiovisual materials appropriate for persons with a Spanish language heritage.

Centers

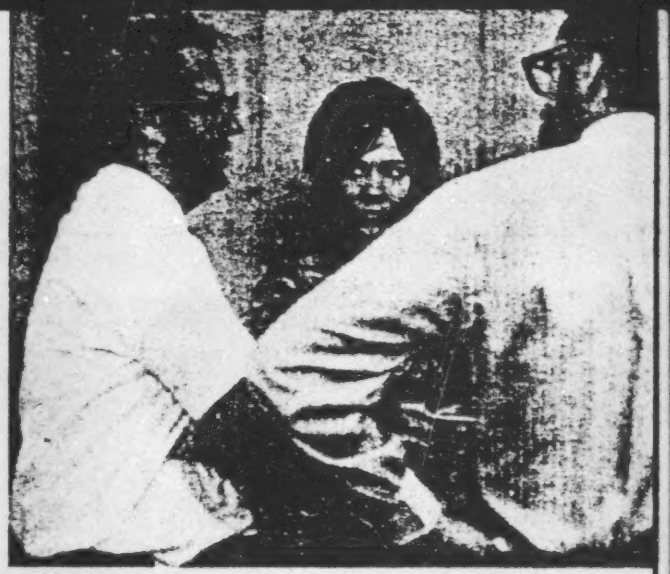
A Study of the Problems of a Media Center and Innovative Practices in the Junior College, Richard D. Graves, California Univ., Los Angeles, Junior College Leadership Program, December 13, 1969, EDRS Price MF 25c, HC $1.10, 20p, ED 035 270.

The Organization and Operation of Educational Media Selection Centers: Identification and Analysis of Current Practices and Guidelines for Model Centers. Interim Report Phase I, John Rowell and M. Ann Heidbreder, National Book Committee, Inc., New York, N.Y., January 30, 1970, EDRS Price MF 75c, HC $9.10, 180p, ED 036 201.

Computers

Cybernation and Man—A Course Development Project: Report Number 2. Final Report, Edward A. Dionne and Ralph Parkman, San Jose State Coll., Calif. School of Engineering, February 28, 1968, EDRS Price MF 75c, HC $6.50, 128p. ED 031 089.

Transportation, Agriculture, and Art are used as examples to establish how technology, especially computer-based technology, is involved in the life of man. An introduction to computers and computer programing using the FORTRAN language is also given in this guide as part of a course in cybernetics.



Coffee cups, shirt sleeves and informal conversation were features of an afternoon break during ERIC at Stanford's recent conference on Educational Research Utilization. Ron Havelock of the University of Michigan, Bette Porter of the Oregon State System of Higher Education and Edwin Parker of Stanford University, shown above left to right, were among 16 participants in the Aug. 13 and 14 affair. Others included Richard Dershimer of the American Educational Research Association, Wesley Meierhenry of the University of Nebraska, and Everett Rogers of Michigan State University.

Linguistic Analysis of Constructed Student Responses in CAI, Robert F. Simmons, Texas Univ., Austin. Computation Center, October 1968, EDRS Price MF 25c, HC $1.65, 31p, ED 031 094.

Protosynthex III (PSIII) is a language processing system developed as an experimental vehicle for testing student responses, with a view to constructing a model of an automated tutor. A version of the PLANIT system was modified so that a human tutor could be used to make instructional decisions in response to students' constructed answers to questions presented by PLANIT, and the resulting interactions used as examples of the breadth of language that the language processor eventually must straddle.

Studies Related to Computer-Assisted Instruction. Semi-Annual Progress Report on Contract Nonr-624(18), October 1, 1968 through March 31, 1969, Robert Glaser, Pittsburgh Univ., Pa. Learning Research and Development Center, May 1969, EDRS Price MF 25c, HC $1.65, 31p, ED 031 097.

A study of response latency in a drill-and-practice task showed that variability in latency measures could be reduced by the use of self-pacing procedures, but not by the detailed analysis of latency into separate components. In evaluating a computer-assisted laboratory in statistical inference, it was found that positive attitudinal shifts toward computers resulted from working on a computer terminal. SKOOLBOL-I, a programing language used in psychological experimentation, was evaluated and modified, and basic design work on a second generation language was initiated.

Development of a FORTRAN Computer Program to Design School Bus Routes. Final Report, Tony A. Ross and others, Mississippi Univ., University. Computer Center, February 28, 1969, EDRS Price MF 50c, HC $3.40, 66p, ED 031 099.

Contemporary Education, V. 40, n. 5, April, 1969, Indiana State Univ., Terre Haute. School of Education, EDRS Price MF 25c, HC $2.90, also available from Indiana State University, 217 North Sixth Street, Terre Haute, Indiana 47809 ($1.00), 56p, ED 031 946.

This issue concentrates on the computer's role in education. There are eight articles on computer-assisted instruction (CAI).

U.S. Office of Education Support of Computer Activities, Andrew R. Molnar and Beverly Sherman, January 1969, EDRS Price MF $1.00, HC available from Superintendent of Documents, U.S.

Composite Photo Simulation by Suzanne Pingree

Greetings from the ERIC at Stanford staff—a little early for the holidays, perhaps, but just in time for the beginning of the academic year which involves so many of us. We present the picture to make a subtle point about our employment practices: A lot of women are involved in the successful operation of the clearinghouse. Women's Lib will be pleased, perhaps, that one-half of Leonard C. Schwarz has been replaced by three-eighths of a girl graduate student.

(More Computers)

Government Printing Office, Washington, D.C. 20402 (GPO FS 5.212; 12044, $1.75), 213p, ED 031 959.

Initial Experiments on the Effects of System Delay on On-Line Problem-Solving, M. A. Morfield and others, Massachusetts Inst. of Tech., Lexington. Lincoln Lab, June 24, 1969, EDRS Price MF 50c, HC $3.35, 65p, ED 031 961.

Computer-Assisted Item Writing—II. (Sentence Completion Items), Ernest J. Anastasio and others, Educational Testing Service, Princeton, N.J., paper presented at National Council on Measurement in Education (Annual, Los Angeles, California, February 1969), EDRS Price MF 25c, HC 75c, 13p, ED 032 776.

A study to facilitate computer generation of test items succeeded in developing a set of criteria which could be used by a computer to select sentences suitable for sentence completion question items.

Project CREATES. First Annual Report 1968-69, Lawrence M. Stolurow and George R. Klare, Harvard Univ., Cambridge, Mass. Computation Lab., June 15, 1969, EDRS Price MF 50c, HC $3.05, also available from ERIC Clearinghouse on Adult Education, Syracuse University, 107 Roney Lane, Syracuse, New York 13210, appendix not available from EDRS, 59p, ED 032 778.

The major emphases of Project CREATES have been in the area of program and procedure development for computer-aided revision of instructional materials and the area of computer instruction of reading and language skills. Work has also been done on analytic-generative computer programs to aid editors and writers in text revision, and on the development of new programs for Adult Basic Education.

The Financial Support and Usage of Computer Centers in Higher Education. Final Report, June R. Chapin, Notre Dame Coll., Belmont, Calif., June 1969, EDRS Price MF 25c, HC $2.00, 38p, ED 032 782.

Establishing an Educational Data Processing Center. Automation Education Monograph Series, J. W. Foley and others, Iowa Univ., Iowa City. Iowa Educational Information Center, 1969, Available from Iowa Educational Information Center, East Hall Annex, University of Iowa, Iowa City, Iowa 52240, 88p, ED 032 786.

Two regional educational data processing centers, operating in the field of school planning and services, are described in detail and used as examples to aid in establishing similar information systems.

Clinical Teaching with Computer Aids. The Bartlesville System, Rondal R. Gamble, Bartlesville Public Schools, Okla.; Oklahoma State Univ., Stillwater. Research Foundation, 1969, EDRS Price MF 25c, HC $1.10, 20p, ED 033 376.

Some people for one reason or another, become high-risk students with limited educational possibilities. A more effective method than those presently used (Head Start, Job Corps) in aiding these high risk students, may be total community involvement and the use of operational evaluation and instruction by computerized assistance.

A Comparative Study of Languages for Programming Interactive Use of Computers in Instruction. Final Report, Karl L. Zinn, Interuniversity Communications Council (EDU-COM), Bethesda, Md.; Michigan Univ., Ann Arbor. Center for Research, Learning and Teaching, February 28, 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-692 506; MF 65c, HC $3.00), 229p, ED 033 570.

Computer-Assisted Instruction in Social Work, Walter H. Ehlers, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, paper prepared for Council on Social Work Education (Annual Program Meeting, Cleveland, Ohio, January 23, 1969), June 1, 1969, Available from Clearinghouse for Federal Scientific and Technical Information. Springfield, Va. 22151 (AD-691 754, MF 65c, HC $3.00), 17p, ED 033 580.

Computer Assisted Instruction in Geography. Commission on College Geography. Technical Paper Number 2, Association of American Geographers, Washington, D.C., 1969, Available from Association of American Geographers, 1146 16th Street, N.W., Washington, D.C. 20036, 163p, ED 033 586.

Computer Assisted Instruction: A Selected Bibliography and KWIC Index, Gerald L. Engel, Naval Weapons Lab., Dahlgren, Va., April 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-689 113, MF 65c, HC $3.00), 197p, ED 033 599.

Some Factors in the Design of Systems for Computer-Assisted Instruction, Lawrence M. Stolurow, Harvard Univ., Cambridge, Mass., May 1, 1968, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-678 740, MF 65c, HC $3.00), 45p, ED 033 600.

"Computers in Education: The Copernican Revolution in Education Systems," Robert J. Seidel, George Washington Univ., Alexandria, Va. Human Resources Research Office, *Computers and Automation*, 18, 3, March 1969, 9p, Available from Clearinghouse

for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-689 016, MF 65c, HC $3.00), ED 033 602.

With the computer and the environments it makes possible, the author feels we are on the threshold of being able to coalesce the study of learning and the prescription of instruction.

An Overview of Computer-Assisted Instruction for Adult Educators, Walter Dick, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, paper presented to the National Institute for Adult Basic Education, North Carolina State University, Raleigh (July 28, 1969), EDRS Price MF 25c, HC $1.45, 27p, ED 033 611.

A Guide to Running a Study in the Computer-Assisted Instruction Center, Duncan N. Hansen and others, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, September 15, 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-693 489, MF 65c, HC $3.00), 16p, ED 034 394.

The Florida State University Computer-Assisted Instruction Center has had three active years in utilizing its IBM 1500 system in the preparation of instructional and psychological studies.

Development Processes in CAI Problems, Techniques, and Implications, Duncan N. Hansen, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, paper presented at Computer-Based Learning Seminar at the University of Leeds, England (September 8-12, 1969), EDRS Price MF 25c, HC $1.60, 30p, ED 034 400.

An input output model for individualizing learning in computer-assisted instruction (CAI) is analyzed, specifying a stimulus array, cognitive processes, and response requirements.

Impact of CAI on Classroom Teachers, Duncan N. Hansen and William L. Harvey, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, October 15, 1969, EDRS Price MF 25c, HC 55c, 9p, ED 034 401.

Individual Versus Paired Learning of an Abstract Algebra Presented by Computer Assisted Instruction, William P. Love, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, 1969, EDRS Price MF $1.00, HC $10.85, 215p, ED 034 403.

Final Report, SD-265; Project TACT, Harvard Univ., Cambridge, Mass., October 1, 1968, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-692 782, MF 65c, HC $3.00), 41p, ED 034 414.

The project objective has been to determine what creative thought processes can best take advantage of new technology in computer hardware and software. The plan has been to acquire or develop on-line computer systems of significant mathematical power, and to explore their use in teaching and research situations.

CYCLOPS-3 System Research, Thomas Marill and others, Computer Corp. of America, Cambridge, Mass., March 1, 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-693 204, MF 65c, HC $3.00), 80p, ED 034 415.

The aim of the CYCLOPS Project research is the development of techniques for allowing computers to perform visual scene analysis, pre-processing of visual imagery, and perceptual learning.

Accomplishment Summary 1968-1969. Biological Computer Laboratory, Heinz Van Foerster and others, Illinois Univ., Urbana. Biological Computer Lab., June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-693 552, MF 65c, HC $3.00), 249p, ED 034 416.

This report summarizes theoretical, applied, and experimental studies in the areas of computational principles in complex intelligent systems, cybernetics, multivalued logic, and the mechanization of cognitive processes.

An Investigation into the Differential Effectiveness for Males and Females, of Three CAI Treatments on Delayed Retention of Mathematical Concepts, Lorraine R. Gay, Florida State Univ., Tallahassee. Computer-Assisted Instruction Center, November 15, 1969, EDRS Price MF 25c, HC $2.50, 49p, ED 034 426.

The Effect of a Short Computer Course on Attitudes Toward the Computer, Murray Melnick and others, Hofstra Univ., Hempstead, N.Y. Center for the Study of Higher Education, September 1969, EDRS Price MF 25c, HC $1.15, 21p, ED 034 474.

SPIRES (Stanford Public Information Retrieval System). Annual Report (2d, 1968), Edwin B. Parker and others, Stanford Univ., Calif. Inst. for Communication Research, January 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (PB-184 960, MF 65c, HC $3.00), 136p, ED 034 553.

The primary facility under development is still the computer information system for on-line reference retrieval. The major technical progress during 1968 was the completion of the SPIRES Supervisor, a special-purpose time-sharing system that serves multiple typewriter terminals.

The Effects of Team Learning and of the Counteracting of Misinformation Upon Attitudes Towards Computer Instructed Learning, Henry J. Goodman, University of California at Los Angeles, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Mich. 48106 (Order No. 68-16,605), Microfilm $3.75, HC $13.30, 292p.

The Use of Computer-Assisted Instruction to Test the Total Time Hypothesis in Verbal Concept Learning, William G. Harless, University of Oklahoma, Dissertation available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan 48106 (Order No. 69-6000) Microfilm $3, HC $4, 74p.

The best combination of time efficiency and material retention occurred when the subject was allowed to control his own exposure rate.

"Slides: A Dictionary System for Computer Controlled Study of Graphic or Pictorial Displays," Merton J. Kahne, Judah L. Schwartz, and Michael Knudsen, *Behavioral Science*, 14, 5, 1969, 418-428.

A Report on Project GROW: Philadelphia's Experimental Program in Computer Assisted Instruction, James J. Diamond, Philadelphia School District, Pa. Office of Research and Evaluation, August 1969, EDRS Price MF 50c, HC $3.50, 68p, ED 035 272.

Computer assisted instruction (CAI) in Biology and Developmental Reading was administered at two junior high schools and two senior high schools in Philadelphia.

Project IMPACT; Description of Learning and Prescription for Instruction, Robert J. Seidel and others, George Washington Univ., Alexandria, Va. Human Resources Research Office, June 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151 (AD-691-707, MF 65c, HC $3.00), 17p.

Project IMPACT (Instructional Model Prototypes Attainable in Computerized Training) is a comprehensive advanced development project designed to produce an effective and economical computer administered instruction system for the Army. The instructional decision model, the heart of the CAI system, is discussed.

Computer Systems for Teaching Complex Concepts, Wallace Feurzeig, Bolt Beranek and Newman, Inc., Cambridge, Mass., March

Buy the Book, Hear from the Author

A new "How To" book on programing offers a unique feature. Purchase of Robert E. Silverman's *How to Write a Program* entitles the buyer to send in 25 frames of his own programing for critique by the author and his staff.

The Silverman book is one of several recently made available by Educational Technology Publications, Inc., 456 Sylvan Ave., Englewood Cliffs, N.J. 07632. Others are *Yearbook of Educational and Instructional Technology 1969/70* and a series of 10 books of reprints from the pages of the journal *Educational Technology*.

The yearbook is the British one, published for the Association for Programmed Learning and Educational Technology in that country. It includes the section "Programmes in Print."

(More Computers)

1969. Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-684 831, MF 65c, HC $3.00), 183p.

Four Programing systems–Mentor, Stringcomp, Simon, and Logo–were designed and implemented as integral parts of research into the various ways computers may be used for teaching problem-solving concepts and skills. Various instructional contexts, among them medicine, mathematics, physics, and basic problem-solving for elementary school children, were used.

Soviet Cybernetics: Recent News Items, Number Thirteen, Wade B. Holland, Rand Corp, Santa Monica, Calif., January 1968, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-665 103, MF 65c, HC $3.00), 73p.

An issue of "Soviet Cybernetics: Recent News Items" consists of English translations of the leading recent Soviet contributions to the study of cybernetics.

Development and Evaluation of Computer-Assisted Instruction in Instructional Music. Final Report, Ned C. Deihl, Pennsylvania State Univ., University Park, September 1969, EDRS Price MF 50c, HC $3.90, 76p, ED 035 314.

Accelerated Program in Elementary-School Mathematics–The Fourth Year, Patrick Suppes and Constance Ihrke, Stanford Univ., Calif. Inst. for Mathematical Studies in Social Science, August 1969, EDRS Price MF 25c, HC $2.20, 42 p, ED 036 426.

Reported is the description of the fourth year of a longitudinal study of the accelerated CAI program involving 30 bright students in elementary school mathematics.

Computer-Assisted Instruction in Statistics. Technical Report, William W. Cooley, Pittsburgh Univ., Pa. Learning Research and Development Center, Paper presented at Conference on Statistical Computation, University of Wisconsin (Madison, April 30, 1969), EDRS Price MF 25c, HC $1.30, 24p, ED 035 294.

New Westinghouse Directory of Instructional Materials Lists 205,000 Items

Westinghouse Learning Corporation has announced September publication of its first annual *Learning Directory*, a seven-volume index to instructional materials in all media.

Over 600,000 entries under some 200,000 specific topics are included, providing convenient access to 205,000 distinct items in 47 media.

The materials indexed are for audience levels from pre-school through college, and represent the current offerings of nearly a thousand publishers, producers, professional groups and government agencies.

The *Learning Directory* is designed so that listings for all materials that cover the same topic at the same audience level appear together. Print and non-print items are jointly indexed, and prices are listed. The 6,681-page directory is available for $90 from the Learning Systems and Media Group of the Westinghouse Learning Corporation, 100 Park Avenue, New York City 10017.

The Problem of Privacy in the Computer Age: An Annotated Bibliography, Annette Harrison, Rand Corp., Santa Monica, Calif., December 1967, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-663 070, MF 65c, HC $3.00), 133p.

NEWSLETTER
from
the ERIC Clearinghouse on Educational Media and Technology
at the Institute for Communication Research
Stanford University
Stanford, Calif. 94305

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THIRD CLASS

Inside this issue, Margaret Mead: "Women like things that do work, not things that have to be made to work."

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ERIC at Stanford

The Newsletter from the Clearinghouse on Educational Media and Technology

In this issue of *Now Available*, documents are listed which deal with

Television and Radio
Theory, Standards, and Models
Simulation and Gaming
Audio Recording
Film
Microteaching
Programed Instruction
Other Visual Materials
Individualized Instruction

Television and Radio

The Development and Evaluation of a Television Workshop in Human Relations, Paul D. Hood and James N. Johnson, Far West Lab. for Educational Research and Development, Berkeley, Calif., April 1969, EDRS Price MF 50c, HC $6.04, 119p, ED 033 173.

Science Programming and the Audiences for Public Television; An Evaluation of Five Programs in the NEW "Spectrum" Series, National Educational Television, New York, N.Y., 1969, EDRS Price MF 50c, HC $4.35, 85 p, ED 034 933.

Satellite Systems for Instructional Radio, Dean Jamison and others, Rand Corp., Santa Monica, Calif., August 1968, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-673 829, MF 65c, HF $3.00), 13p.

The purpose in this paper is to point out the economic and technical attractiveness of satellite-based instructional radio systems with 50 to 200 channels.

Orientation to Instructional Television for Faculties of Higher Education Institutions by Network ETV in Nebraska, A Study of Decision-Making for ETV Utilization. Final Report, M. Scheffel Pierce, Nebraska Univ., Lincoln, February 1969, EDRS Price MF 50c, HC $3.90, 76 p, ED 035 298.

A Study of the Audience for an Open-Broadcast Instructional Television Course in Economics, Charles Colt, Boardman, Arkansas Univ., Fayetteville, Agricultural Extension Service, 1969, Thesis available from University Microfilms, 300 N. Zeeb Rd., Ann Arbor, Michigan, 48106 (Order No. 69-13, 765, MF $3.00, HC $6.20), 127p.

The Use and Production of Television Tapes for Courses in Family Life Education, John Rich and Eleanore Braun Luckey, Connecticut Univ., Storrs, Paper presented at the National Council of Family Relations, Washington, D.C., October 23-24, 1969, EDRS Price MF 25c, HC 90c, 16 p, ED 035 905.

Vocational Guidance Through Videotaping and Television, William J. Tonkin, 1967, EDRS Price MF 25c, HC 40c, 6 p, ED 036 047.

Television as a Technical Aid in Education and in Educational and Psychological Research: A Bibliography. Didakometry, B. Bierschenk, School of Education, Malmo (Sweden), Department of

New "Trends" Paper Includes Harley Comments on Sesame Street

Editor's Note: The following statements were made during the clearinghouse's advisory council meeting in Washington D.C. last May. These and other transcript excerpts make up one section of *Trends in Instructional Technology*, the clearinghouse's 1970 planning report which was prepared by William H. Allen. While a limited supply lasts, complimentary copies are available from the clearinghouse.

Robert C. Gerletti: Regarding Sesame Street, I have good and bad reactions. I'm a little bit worried about some of it from some of the reactions we get from teachers. But we are getting reactions, which we need.

C. Ray Carpenter: Could I ask you another question? Are you concerned about it becoming known as *the* answer?

Gerletti: Not so much that. We have some feedback—and again, we don't know just how valid these reactions are—that some of the techniques may lead to some phoney conceptualization on the part of kids. And this is what we're getting from some of our sharp teachers.

Carpenter: I don't think we've ever had a success that more urgently needs external and impartial analysis than this.

Unidentified: I quite agree.

Unidentified: By somebody that isn't paid by the Sesame Street organization. A real look at this thing and the various considerations as to where you go next.

William G. Harley: We have the same concern. But it's been a fantastic thing from the standpoint of drawing attention. Talk about an Open Sesame, I've been to four congressional hearings within a two week period, and everybody had heard about Sesame Street. All the congressmen knew about it and it was "love and roses" everywhere, because this had made such an impact.

Now, we also know that, though it was designed for the underprivileged kids in urban centers, that the kids who are watching it are largely the white middle class. And, much of the popular reaction is on the part of parents, and adults. So there are lots of answers. When it gets into the transition from the pre-school to the formal school experience, what happen then? There are lots of questions still to be answered, but it sure has created attention and awareness as nothing we've ever done in public broadcasting.

(More Television and Radio)

Educational and Psychological Research, Nov. 1969, EDRS Price MF 25c, HC $2.85, 55p, ED 037 060.

This annotated bibliography concerns television as a technical aid in education and in research. The main stress is on English and German dissertations from 1962 to 1969.

A Study of the Usefulness of the Instructional Television Services of Channel 13/WNDT and Recommendations for Their Improvement, Peter J. Dirr, New York University, N.Y., School of Education, Ph.D. Thesis, 1970, EDRS Price MF 50c, HC $5.95, 117p, ED 037 091.

Three conditions were found to be statistically associated with the number of series a teacher uses: the storage location of the television set, the teacher's professional preparation, and the grade levels concerned.

Educational and Instructional Television Facilities Evaluation: Preliminary Practical Procedures, C. R. Carpenter and others, Pennsylvania State Univ., University Park, Dept. of Psychology, Aug. 12, 1968, EDRS Price MF 50c, HC $4.40, 86p, ED 037 101.

Leaning heavily on National Educational Television affiliates for its information, this survey of instructional television production units and the relationship of their facilities to the quality of television courses which they produce finds that instructional television is fairly well off in terms of "hardware" and only slightly lacking in more highly trained personnel, but that the future does not look so bright.

Broadcasting and Social Action. A Handbook for Station Executives, Marcus Cohn, Ed., National Association of Educational Broadcasters, Washington, D.C., November 1969. Available from the National Association of Educational Broadcasters, 1346 Connecticut Ayenue, Washington, D.C. 20036 ($3.95), 78p.

A number of commercial and non-commercial stations have recognized their special responsibility to attempt to help society find a solution to the problems of minority groups. In this handbook, 51 case studies of special programming on the problems of minority groups are presented.

A Description of Similarity of Personality Between Selected Groups of Television Viewers and Certain Television Roles Regularly Viewed by Them, Maxwell Vermilyea Perrow, University of Southern California, Los Angeles, Graduate School, Thesis, 1968. Available from University Microfilms (Order no. 68-17 037), Microfilm $3.00, HC $10.60, 232p.

The aim of this study was to provide quantitative measurement of the degree of identification, or lack of it, that takes place between the viewers of television and the television roles they like and view regularly and those they dislike and view infrequently.

Evaluation of Closed Circuit Educational Television in Delaware: Emphasis on Utilization, Program Series Content, and Commitment. Preliminary Report, Jeanne W. Mohrmann and Wilmer E. Wise, Delaware State Dept. of Public Instruction, Dover, Div. of Research, Planning, and Evaluation, January 1970, EDRS Price MF $1.00, HC $13.30, 264p, ED 038 033.

Continuing Public Education Broadcasting, National Instructional Television Center, Bloomington, Ind., September 1969, EDRS Price MF $1.00, HC $11.95, 237p, ED 038 042.

The contemporary scene and future directions for public educational broadcasting were examined for this report as a prior condition to increasing the usefulness and availability of public television and radio programing in providing continuing learning opportunities for all Americans. The report describes the research methodology, the main features of Continuing Public Education Broadcasting (CPEB), and recommendations to the Corporation for Public Broadcasting on the purpose and planning of adult learning opportunities through public broadcasting stations.

Second Seminar on Direct Teaching by Television (Scheveningen, 1968), Council of Europe, Strasbourg (France), Council for Cultural Cooperation, 1969, EDRS Price MF 25c, HC $2.50, 48p, ED 038 590.

The purpose was to compare, at a European level, the methods already developed in direct teaching by television in adult education, pool experience, and promote coordination between educational authorities and radio and television experts.

New Types of Out-Of-School Education: Combined Teaching Systems, Council of Europe, Strasbourg (France), Council for Cultural Cooperation, 1968, EDRS Price MF 50c, HC $4.90, 96p, ED 038 598.

This publication includes discussion of the use of "combined teaching systems" (and most specifically television) in various European adult education programs.

Study Group on New Types of Out-Of-School Education: Combined Teaching Systems, Council of Europe, Strasbourg (France), Council for Cultural Cooperation, April 1969, EDRS Price MF 25c, HC not available from EDRS, 27p, ED 038 605.

This report includes a discussion on preparing case studies on out of school education, a discussion of the aspects of the relationship between educational and broadcasting authorities, information on the use of satellite transmission, two study courses on educational broadcasting and on combined teaching systems, and some ideas for long-range planning. Resolutions are presented on such matters as wider European cooperation, course planning, evaluation procedures, and the allocation of frequency bands to transmitting authorities.

The Impact of Cable Television in Canada on the Audiences to Canadian TV Shows, Canadian Broadcasting Corp., Ottawa (Ontario), December 1969, EDRS Price MF 25c, HC $2.55, 49p, ED 038 855.

Theory, Standards, and Models

Time-Compressed Speech as an Educational Medium: Studies of Stimulus Characteristics and Individual Differences. Final Report, Herbert L. Friedman and Raymond L. Johnson, American Institutes for Research (Washington Office), Silver Spring, Maryland, September 1969, EDRS Price MF 50c, HC $6.05, 119p, ED 035 315.

Research in training subjects to comprehend compressed speech has led to deeper studies of basic listening skills. The connected discourse is produced by a technique which deletes segments of the speech record and joins the remainder together without pitch distortion.

McLuhan and the Future of Literature, Rebecca West, 1969 Presidential Address for the English Association (England), July

Documents Processed And/Or Cited By the Clearinghouse

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1969, EDRS Price MF 25c, HC $1.05, 19p, ED 035 623.

Marshall McLuhan's belief that our electric age is moving away from literacy entails unconvincing theories about the relationship of man to communications media.

Description of a Practical Procedure for Assessing Instructional Film and Television Programs, C. R. Carpenter and Marlowe Froke, Pennsylvania State Univ., University Park, Dept. of Psychology, August 12, 1968, EDRS Price MF 25c, HC $2.25, 43p, ED 037 102.

A panel was formed for the purpose of evaluating those attributes of instructional film and instructional television programs which affect learning behavior.

Social Behaviorism, Human Motivation, and the Conditioning Therapies, Arthur W. Staats, University of Hawaii, Honolulu, Dept. of Psychology, August 1969, EDRS Price MF 50c, HC $3.90, 76p, ED 038 013.

The author conceives of the human emotional system as being composed of three functions of motivational stimuli: the attitudinal or emotional, the reinforcing, and the discriminative controlling function which the stimuli acquire. The implications this way of examining behavior has for theoretical analysis of instrumental behavior are suggested.

Simulation and Gaming

The Effectiveness and Efficiency of Two Types of Simulation as Functions of Level of Elementary Education Training. Final Report, Gerald R. Girod, Washington State Univ., Pullman, September 1969, EDRS Price MF 75c, HC $8.20, 162p, ED 035 299.

An experiment was performed to determine the efficiency of simulation teaching techniques in training elementary education teachers to identify and correct classroom management problems. The two presentation modes compared were film and audiotape.

Audio Recording

An Objective Evaluation of the Success of Audio-Tutorial Course in General Biology, James E. Arnwine and Bill Juby, 1969, EDRS Price MF 25c, HC 35c, 5p, ED 037 207.

To evaluate the success of the audio-tutorial method, conventional biology course grades were predicted for each of the 18 students in the experimental group. The attained grades of this group were higher than the predictions.

Film

Index to 16mm Educational Films. Second Edition, University of Southern California, Los Angeles, National Information Center for Educational Media, September 15, 1969. Available from R. R. Bowker Co., 1180 Avenue of the Americas, New York, N.Y. 10036 ($39.50), 1111p.

Index to 8mm Motion Cartridges. Second Edition, University of Southern California, Los Angeles, National Information Center for Educational Media, November 1969. Available from R. R. Bowker Co., 1180 Avenue of the Americas, New York, N.Y. 10036 ($19.50), 402p.

Film Making in Schools, Douglas Lowndes, 1968. Available from Watson-Guptill Publications, 165 West 46th Street, New York, N.Y. 10036 ($8.95), 128p.

Microteaching

The Effect of Microteaching, Directive, and Non-Directive Lectures on Achievement and Attitudes in a Basic Educational Psychology Course. The Effect of Mode of Feedback in Microteaching (2 documents combined), Cheryl L. Reed and others, Papers presented at the annual meeting of the American Educational Research Association, Minneapolis, March 1970, EDRS Price MF 25c, HC $1.35, 25p, ED 037 791.

Effect of Classroom Experience and Video Tape Self-Observation Upon Undergraduate Attitudes Toward Self and Toward Teaching, Bert A. Goldman, American Psychological Association, Washington, D.C., 1969. Available from "Separates for Div. 15, Proceedings of the 77th Annual Convention, APA," Order Dept. APA, 1200 17th Street, N.W., Washington, D.C. ($2.50), 2p.

A study was undertaken to determine the effect of a microteaching experience on the attitudes of elementary education undergraduates prior to their enrollment in professional education courses.

Impact of Video Feedback on Teachers' Eye-Contact Mannerisms in Microteaching, Niyazi Karasar, Ohio State Univ., Columbus, Ph.D. Thesis, 1970. Available from University Microfilms, 94p.

It was concluded that the video feedback may not have any significant effect on eye-contact mannerisms.

Programed Instruction

Social Reinforcement, Personality and Learning Performance in Cross-Cultural Programmed Instruction, John D. Symonds, Illinois Univ., Urbana, Group Effectiveness Research Lab., March 1969, Available from Clearinghouse for Federal Scientific and Technical Information, Springfield, Va. 22151 (AD-685 641, MF 65c, HC $3.00), 35p.

Some Principles of Learning and Learning with the Aid of Machines, V. A. Dolyatovskii and E. M. Sotnikov, Wright-Patterson AFB, Ohio, Foreign Technology Div., December 1, 1967, Available from Clearinghouse for Federal Scientific and Technical Informa-

New Guide to Fiche Readers Describes 47 Models

Anyone considering purchase of a microfiche reader or reader/printer will be interested in a 1970 equipment guide issued by the Defense Documentation Center. In 97 pages, 47 models are both described and pictured.

As might be expected in a U.S. Government publication, no recommendations are made. Though the report is not a *Consumers Report,* it still provides valuable information, including the addresses of the companies producing the equipment.

Copies of "Microfiche Viewing Equipment," by Ronald F. Gordon, are available for $3 from the National Technical Information Service, Springfield, Va. 22151. (Order it as Document AD 701 600.)

If you're without a microfiche reader and interested in buying your first, you probably won't want to take advantage of this bargain: the same report, ordered from the same source, on fiche for 65c.

Could Instructional Technology Help Fireproof Teachers?

During a state senate campaign in California, one candidate came up with a potentially strong reason for increasing the use of instructional technology. As reported in the *Palo Alto Times* of Sept. 26, candidate John Rutherford said the tenure system should be changed so that "burned out" and "incompetent" teachers can be kicked out of the schools.

"Teachers are bound to burn out," Rutherford said. "Even a good teacher will burn out in 15 years. We need a contract system so teachers who are burned out or incompetent will not destroy our children."

(More Programed Instruction)

tion, Springfield, Va. 22151 (AD-673 920, MF 65c, HF $3.00), 15p.

A translated Soviet document describes some theories of learning, and the practical problems of developing a teaching machine—as taught in an Industrial Electronics course.

Other Visual Materials

Index to Overhead Transparencies. Second Edition, University of Southern California, Los Angeles, National Information Center for Educational Media, October 1, 1969. Available from R. R. Bowker Co., 1180 Avenue of the Americas, New York, N.Y. 10036 ($22.50), 552p.

Index to 35mm Educational Filmstrips, University of Southern California, Los Angeles, National Information Center for Educational Media, February 1970. Available from R. R. Bowker Co., 1180 Avenue of the Americas, New York, N.Y. 10036 ($34.00), 872p.

Techniques for Producing Visual Instructional Media, Ed Minor and Harvey R. Frye, 1970. Available from McGraw-Hill Book Co., 330 W. 42nd Street, New York, N.Y. 10036 ($7.50), 305p.

Individualized Instruction

The Role of Evaluation in Programs for Individualized Instruction, C. M. Lindvall, and Richard C. Cox, Pittsburgh Univ., Pa. Learning Research and Development Center, 1969, Available from University of Pittsburgh, Learning Research and Development Center, 160 N. Craig St., Pittsburgh, Penn. 15213 (50c), 34 p, ED 035 302.

The Effect of a Study of Grammar on the Writing of Eighth-Grade Students. Report from the Individually Guided Instruction in English Language, Composition, and Literature Project, Nathan S. Blount and others, Wisconsin Univ., Madison, Research and Development Center for Cognitive Learning, December 1968, EDRS Price MF 25c, HC $2.65, 51 p, ED 036 515.

A Handbook for Developing Individualized Instruction in Continuation Education, Fresno County Schools, California, 1970, EDRS Price MF 50c, HC $3.15, 61p, ED 037 081.

Individualized Instruction: A Manual for Administrators, Jack V. Edling, Oregon State System of Higher Education, Monmouth, Teaching Research Division, 1970. Available from Continuing Education Publications, Waldo Hall, 100, Corvallis, Oregon 97331 ($7.50), 137p.

NAEB's Library to Increase Service with Fiche

The National Association of Educational Broadcasters has begun Phase I of a project to transfer all printed research documents and periodicals in the organization's library to microfiche and microfilm. The central core of the microfiche collection is a selection of 3,000 ERIC documents directly related to aspects of educational and instructional broadcasting and educational technology. These will be updated monthly.

The documents both replace and augment many of the present NAEB library holdings, and they are expected to be ready for use in December. "Access to the resources of ERIC, we believe, will permit us to better utilize current research literature at much lower cost than in the past," said Eileen Z. Cole, NAEB librarian.

The NAEB has recently purchased a microfilm reader-printer with microfiche attachment, and plans are being made to acquire several portable microfiche readers in order to allow NAEB staff and other individuals to make use of the library's resources outside the library.

As soon as the system is operational, NAEB members throughout the country and other major public broadcasting agencies in the Washington area will be encouraged to make regular use of it. Listings of new materials received each month will be sent to them, and library services will be expanded.

The library will continue to operate essentially as it has in the past, according to Mrs. Cole, providing information on an individual request basis. It will, however, function more efficiently with a far greater research data base. Use of the reader-printer will allow staff to copy portions of documents to be mailed out while permitting the original microfiche to remain in the library for the convenience of other users.

Phase II of the Library Development Project will combine two further transfer procedures. Within six months to a year most of the NAEB's extensive periodical and journal collection will be transferred to microfilm for permanent storage and retrieval. The new ERIC cataloguing and indexing service, *Current Index to Periodicals in Education,* makes such a plan feasible for the first time. Phase II also incorporates plans to microfilm most documents in the NAEB private collection for permanent storage and retrieval.

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